

Chemical Analysis Report

NW-DIST-2023-04-07-01

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

Event Description: **Bioassessment**
Request ID: **RQ-2023-04-03-47**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
160 W Government Street
Suite 208
Pensacola, FL 32502-5794
Attn: Myranda Butler

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: Chris Bowen, Environmental Administrator

Date Certified: 01-MAY-2023 10:00



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: Dead River Near Mouth of Pond

Collection Date/Time: 04/05/2023 11:30

Field ID: G4NW0536

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2398932	DEP SOP: NU-094-1	Color (true)	52		PCU	P428205	
	EPA 180.1 Rev. 2.0	Turbidity	1.1		NTU	P428209	
	EPA 300.0 Rev. 2.1	Chloride	3.8		mg Cl/L	P428574	
		Sulfate	0.62		mg SO4/L	P428577	
	SM 2320 B-2011	Total Alkalinity	2.4	I	mg CaCO3/L	P428357	
	SM 2540 C-2015	TDS	29		mg/L	P428708	
	SM 2540 D-2015	TSS	2	U	mg/L	P428570	
	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P428728	
2398933	EPA 350.1 Rev. 2.0	Ammonia-N	0.003	I	mg N/L	P428452	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.31		mg N/L	P428879	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.21		mg N/L	P428307	
	EPA 365.1 Rev. 2.0	Total-P	0.014		mg P/L	P428245	
	SM 5310 B-2011	Organic Carbon	5.2		mg C/L	P428294	
2398934	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	UQ	mg P/L	P428190	
2398937	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	0.10	U	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	0.24		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	0.0066	I	ug/L	P428189	
		Hydrocodone	0.0020	U	ug/L	P428189	
		Ibuprofen	0.080	U	ug/L	P428189	
		Imidacloprid	0.0034	I	ug/L	P428189	
		Linuron	0.0040	U	ug/L	P428189	
		Mandestrobin	0.0020	U	ug/L	P428189	
		MCP	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	

Field ID: G4NW0536

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2398937	EPA 8321B	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	
2398938	EPA 200.7 Rev. 4.4	Calcium	1.01		mg/L	P428270	
		Chromium	1.0	U	ug/L	P428270	
		Cobalt	1.0	U	ug/L	P428270	
		Iron	390		ug/L	P428270	
		Magnesium	0.74		mg/L	P428270	
		Potassium	0.43	I	mg/L	P428270	
		Sodium	2.7		mg/L	P428270	
		Strontium	6.7	I	ug/L	P428270	
		Tin	3.0	U	ug/L	P428270	
		Titanium	0.75	U	ug/L	P428270	
	EPA 200.8 Rev. 5.4	Vanadium	2.0	U	ug/L	P428270	
		Aluminum	81		ug/L	P428270	
		Antimony	0.050	U	ug/L	P428270	
		Arsenic	0.19	I	ug/L	P428270	
		Barium	13.2		ug/L	P428270	
		Beryllium	0.019	I	ug/L	P428270	
		Boron	12.2		ug/L	P428270	
		Cadmium	0.020	U	ug/L	P428270	
		Copper	0.40	U	ug/L	P428270	
		Lead	0.20	U	ug/L	P428270	
	SM 2340 B-2011	Manganese	20.0		ug/L	P428270	
		Molybdenum	0.15	U	ug/L	P428270	
		Nickel	0.50	U	ug/L	P428270	
		Selenium	0.20	U	ug/L	P428270	
		Silver	0.010	U	ug/L	P428270	
		Thallium	0.10	U	ug/L	P428270	
		Zinc	7.0	U	ug/L	P428270	
		Hardness	5.6		mg/L	P428270	

Ref. Method and Comment:

DEP SOP: NU-094-1: 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.

EPA 365.1 Rev. 2.0 dissolved: O-Phosphate-P: The sample expired upon receipt.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P428205

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428209

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P428270

Component	Result	Code	Units
Calcium	0.075	U	mg/L
Chromium	1.0	U	ug/L
Cobalt	1.0	U	ug/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

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P428270

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
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
Zinc	7.0	U	ug/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428574

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: P428577

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428452

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428879

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428307

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P428245

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P428190

Component	Result	Code	Units
O-Phosphate-P	0.004	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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P428189

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

Reference Method: SM 2320 B-2011

Batch ID: P428357

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

Reference Method: SM 2540 C-2015

Batch ID: P428708

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015

Batch ID: P428570

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011

Batch ID: P428728

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P428294

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: P428205

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428209

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P428270

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	107		P	85 - 115
Chromium	109		P	85 - 115
Cobalt	102		P	85 - 115
Iron	106		P	85 - 115
Magnesium	109		P	85 - 115
Potassium	106		P	85 - 115
Sodium	114		P	85 - 115
Strontium	108		P	85 - 115
Tin	105		P	85 - 115
Titanium	104		P	85 - 115
Vanadium	106		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P428270

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	101		P	85 - 115
Antimony	102		P	85 - 115
Arsenic	101		P	85 - 115
Barium	102		P	85 - 115
Beryllium	97.2		P	85 - 115
Boron	107		P	85 - 115
Cadmium	104		P	85 - 115
Copper	98.1		P	85 - 115
Lead	97.9		P	85 - 115
Manganese	99.4		P	85 - 115
Molybdenum	101		P	85 - 115
Nickel	99.2		P	85 - 115
Selenium	97.8		P	85 - 115
Silver	102		P	85 - 115
Thallium	99.8		P	85 - 115
Zinc	103		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428574

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Chloride	98.4		P	90 - 110

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428577

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	96.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428452

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428879

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428307

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	104		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P428245

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	97.9		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P428190

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
O-Phosphate-P	99.1		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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P428189

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
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
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: P428357

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	94.9		P	94 - 106

Reference Method: SM 2540 C-2015

Batch ID: P428708

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

Reference Method: SM 2540 D-2015

Batch ID: P428570

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	96.4		P	85 - 106

Reference Method: SM 4500-F- C-2011

Batch ID: P428728

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	100		P	96 - 104

Reference Method: SM 5310 B-2011

Batch ID: P428294

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P428270

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398938	Calcium	106	109	P/P	80 - 120
2398938	Chromium	108	110	P/P	80 - 120
2398938	Cobalt	103	104	P/P	80 - 120
2398938	Iron	107	109	P/P	80 - 120
2398938	Magnesium	110	112	P/P	80 - 120
2398938	Potassium	106	107	P/P	80 - 120
2398938	Sodium	113	116	P/P	80 - 120
2398938	Strontium	108	109	P/P	80 - 120
2398938	Tin	106	107	P/P	80 - 120
2398938	Titanium	105	106	P/P	80 - 120
2398938	Vanadium	106	107	P/P	80 - 120
2399053	Calcium	106		P	80 - 120
2399053	Chromium	109		P	80 - 120
2399053	Cobalt	103		P	80 - 120
2399053	Iron	108		P	80 - 120
2399053	Magnesium	111		P	80 - 120
2399053	Potassium	106		P	80 - 120
2399053	Sodium	112		P	80 - 120
2399053	Strontium	109		P	80 - 120
2399053	Tin	107		P	80 - 120
2399053	Titanium	104		P	80 - 120
2399053	Vanadium	108		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P428270

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398938	Aluminum	101	102	P/P	80 - 120
2398938	Antimony	102	101	P/P	80 - 120
2398938	Arsenic	102	101	P/P	80 - 120
2398938	Barium	102	101	P/P	80 - 120
2398938	Beryllium	99.6	98.5	P/P	80 - 120
2398938	Boron	108	104	P/P	85 - 115
2398938	Cadmium	105	103	P/P	80 - 120
2398938	Copper	101	99.1	P/P	80 - 120
2398938	Lead	99.2	99.0	P/P	80 - 120
2398938	Manganese	101	98.1	P/P	80 - 120
2398938	Molybdenum	102	101	P/P	80 - 120
2398938	Nickel	100	99.6	P/P	80 - 120
2398938	Selenium	99.9	98.0	P/P	80 - 120
2398938	Silver	101	101	P/P	80 - 120
2398938	Thallium	102	101	P/P	80 - 120
2398938	Zinc	104	103	P/P	80 - 120
2399053	Aluminum	100		P	80 - 120
2399053	Antimony	104		P	80 - 120
2399053	Arsenic	103		P	80 - 120
2399053	Barium	106		P	80 - 120
2399053	Beryllium	96.9		P	80 - 120
2399053	Boron	104		P	85 - 115
2399053	Cadmium	106		P	80 - 120
2399053	Copper	106		P	80 - 120
2399053	Lead	99.4		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P428270

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2399053	Manganese	106		P	80 - 120
2399053	Molybdenum	105		P	80 - 120
2399053	Nickel	103		P	80 - 120
2399053	Selenium	103		P	80 - 120
2399053	Silver	102		P	80 - 120
2399053	Thallium	103		P	80 - 120
2399053	Zinc	103		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P428574

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398874	Chloride	98.0		P	90 - 110
2399038	Chloride	98.8		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P428577

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398874	Sulfate	96.1		P	90 - 110
2399038	Sulfate	96.3		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P428452

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398864	Ammonia-N	98.0	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P428879

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398897	Kjeldahl Nitrogen	92.8	95.4	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P428307

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398942	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P428245

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398942	Total-P	103	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Batch ID: P428190

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398944	O-Phosphate-P	97.5	98.5	P/P	90 - 110

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	Acesulfame K	93.7	93.8	P/P	40 - 150
2398314	AMPA	116	114	P/P	40 - 150
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	MCPP	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 4500-F- C-2011
Batch ID: P428728

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398875	Fluoride	101	101	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P428294

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2398896	Organic Carbon	95.0	96.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P428209

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398862	Turbidity	4.62	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P428270

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398938	Calcium	1.60	Spike	P	0 - 20
2398938	Chromium	2.20	Spike	P	0 - 20
2398938	Cobalt	0.848	Spike	P	0 - 20
2398938	Iron	1.39	Spike	P	0 - 20
2398938	Magnesium	1.58	Spike	P	0 - 20
2398938	Potassium	0.735	Spike	P	0 - 20
2398938	Sodium	1.55	Spike	P	0 - 20
2398938	Strontium	1.42	Spike	P	0 - 20
2398938	Tin	1.13	Spike	P	0 - 20
2398938	Titanium	0.597	Spike	P	0 - 20
2398938	Vanadium	0.773	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P428270

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398938	Aluminum	0.537	Spike	P	0 - 20
2398938	Antimony	0.614	Spike	P	0 - 20
2398938	Arsenic	1.33	Spike	P	0 - 20
2398938	Barium	0.631	Spike	P	0 - 20
2398938	Beryllium	1.09	Spike	P	0 - 20
2398938	Boron	2.81	Spike	P	0 - 20
2398938	Cadmium	2.45	Spike	P	0 - 20
2398938	Copper	1.57	Spike	P	0 - 20
2398938	Lead	0.189	Spike	P	0 - 20
2398938	Manganese	2.11	Spike	P	0 - 20
2398938	Molybdenum	1.26	Spike	P	0 - 20
2398938	Nickel	0.495	Spike	P	0 - 20
2398938	Selenium	1.91	Spike	P	0 - 20
2398938	Silver	0.684	Spike	P	0 - 20
2398938	Thallium	0.821	Spike	P	0 - 20
2398938	Zinc	1.80	Spike	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428574

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398874	Chloride	1.19	Sample	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P428577

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398874	Sulfate	0.165	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P428452

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398864	Ammonia-N	1.76	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P428879

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398897	Kjeldahl Nitrogen	2.54	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P428307

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398942	NO2NO3-N	0.491	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P428245

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398942	Total-P	0.365	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P428190

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398944	O-Phosphate-P	0.952	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

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	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	Acetamiprid	0.389	Spike	P	0 - 30
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: P428357

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398875	Total Alkalinity	2.12	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015

Batch ID: P428708

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398876	TDS	6.33	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011

Batch ID: P428728

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398875	Fluoride	0.0	Spike	P	0 - 1.6

Quality Assurance Report

Precision

Reference Method: SM 5310 B-2011
Batch ID: P428294

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2398896	Organic Carbon	1.70	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2398937

Field Sample ID: G4NW0536

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	130	P	30 - 160
EPA 8321B	Acetaminophen-d4	104	P	30 - 160
EPA 8321B	Carbamazepine-d10	73.4	P	30 - 160
EPA 8321B	Diuron-d6	59.5	P	30 - 160
EPA 8321B	Endothall-d6	104	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	118	P	30 - 160
EPA 8321B	Ibuprofen-d3	83.9	P	30 - 160
EPA 8321B	Primidone-d5	114	P	30 - 160
EPA 8321B	Sucralose-d6	87.6	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A118448

Included Lab Sample IDs: 2398934

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	99.9	99.0	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A118451

Included Lab Sample IDs: 2398932

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	103	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A118453

Included Lab Sample IDs: 2398932

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

Reference Method: EPA 8321B

Run ID: A118472

Included Lab Sample IDs: 2398937

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	88.3	89.0	P/P	60 - 160
Sucralose	101	103	P/P	60 - 160

Reference Method: SM 5310 B-2011

Run ID: A118486

Included Lab Sample IDs: 2398933

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	99.5	99.0	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A118495

Included Lab Sample IDs: 2398933

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	104	103	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A118496

Included Lab Sample IDs: 2398937

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	99.4	88.4	P/P	50 - 150
2,4,5-T	103	101	P/P	50 - 150
Acetaminophen	108	109	P/P	60 - 160
Acetamiprid	94.5	96.7	P/P	50 - 150
Afidopyropen	135	100	P/P	50 - 150
Bentazon	114	115	P/P	50 - 160
Benzovindiflupyr	107	101	P/P	50 - 150
Carbamazepine	115	95.5	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A118496
Included Lab Sample IDs: 2398937

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Clothianidin	101	99.9	P/P	60 - 150
Dinotefuran	128	123	P/P	50 - 150
Diuron	87.9	97.3	P/P	60 - 160
Fenuron	98.2	97.7	P/P	60 - 150
Fluridone	101	111	P/P	60 - 160
Hydrocodone	134	142	P/P	60 - 150
Ibuprofen	111	98.2	P/P	50 - 160
Imazapyr	106	119	P/P	50 - 150
Imidacloprid	93.4	93.7	P/P	60 - 150
Linuron	95.5	104	P/P	60 - 150
Mandestrobin	96.9	97.3	P/P	50 - 150
MCPP	94.4	88.1	P/P	50 - 150
Naproxen	107	143	P/P	50 - 160
Primidone	112	115	P/P	60 - 150
Pyraclostrobin	103	106	P/P	60 - 150
Silvex	87.3	96.2	P/P	50 - 150
Thiamethoxam	113	118	P/P	50 - 150
Tolfenpyrad	95.1	93.2	P/P	60 - 150
Triclopyr	90.4	91.1	P/P	50 - 150

Reference Method: EPA 8321B
Run ID: A118497
Included Lab Sample IDs: 2398937

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	100	109	P/P	60 - 160
Endothall	100		P	60 - 160
Glufosinate	94.6	84.6	P/P	60 - 160
Glyphosate	108	110	P/P	60 - 160

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A118506
Included Lab Sample IDs: 2398933

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

Reference Method: EPA 200.8 Rev. 5.4
Run ID: A118516
Included Lab Sample IDs: 2398938

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.8	99.5	P/P	90 - 110
Antimony	100	99.4	P/P	90 - 110
Arsenic	101	99.4	P/P	90 - 110
Barium	99.5	98.9	P/P	90 - 110
Beryllium	101	100	P/P	90 - 110
Cadmium	101	100	P/P	90 - 110
Copper	95.1	95.4	P/P	90 - 110
Lead	97.7	96.0	P/P	90 - 110
Manganese	98.1	97.4	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A118516

Included Lab Sample IDs: 2398938

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Molybdenum	100	99.6	P/P	90 - 110
Nickel	95.3	96.1	P/P	90 - 110
Selenium	101	101	P/P	90 - 110
Silver	100	99.9	P/P	90 - 110
Thallium	97.7	98.7	P/P	90 - 110
Zinc	101	100	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A118519

Included Lab Sample IDs: 2398932

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.3	94.3	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A118539

Included Lab Sample IDs: 2398938

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	102	103	P/P	90 - 110
Chromium	106	108	P/P	90 - 110
Cobalt	102	103	P/P	90 - 110
Iron	102	102	P/P	90 - 110
Magnesium	103	104	P/P	90 - 110
Potassium	104	104	P/P	90 - 110
Sodium	107	108	P/P	90 - 110
Strontium	106	107	P/P	90 - 110
Tin	104	106	P/P	90 - 110
Titanium	101	102	P/P	90 - 110
Vanadium	104	105	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A118541

Included Lab Sample IDs: 2398938

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Boron	99.8	100	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A118557

Included Lab Sample IDs: 2398933

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.2	98.4	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A118603

Included Lab Sample IDs: 2398932

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.4	95.6	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A118603

Included Lab Sample IDs: 2398932

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Sulfate	97.4	95.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A118673

Included Lab Sample IDs: 2398932

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A118759

Included Lab Sample IDs: 2398933

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	102	95.4	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)	101						
EPA 180.1 Rev. 2.0	Turbidity	101					4.62	
EPA 200.7 Rev. 4.4	Calcium	107	106	109	106			1.60
	Chromium	109	108	110	109			2.20
	Cobalt	102	103	104	103			0.848
	Iron	106	107	109	108			1.39
	Magnesium	109	110	112	111			1.58
	Potassium	106	106	107	106			0.735
	Sodium	114	113	116	112			1.55
	Strontium	108	108	109	109			1.42
	Tin	105	106	107	107			1.13
	Titanium	104	105	106	104			0.597
	Vanadium	106	106	107	108			0.773
EPA 200.8 Rev. 5.4	Aluminum	101	101	102	100			0.537
	Antimony	102	102	101	104			0.614
	Arsenic	101	102	101	103			1.33
	Barium	102	102	101	106			0.631
	Beryllium	97.2	99.6	98.5	96.9			1.09
	Boron	107	108	104	104			2.81
	Cadmium	104	105	103	106			2.45
	Copper	98.1	101	99.1	106			1.57
	Lead	97.9	99.2	99.0	99.4			0.189
	Manganese	99.4	101	98.1	106			2.11
	Molybdenum	101	102	101	105			1.26
	Nickel	99.2	100	99.6	103			0.495
	Selenium	97.8	99.9	98.0	103			1.91
	Silver	102	101	101	102			0.684
	Thallium	99.8	102	101	103			0.821
	Zinc	103	104	103	103			1.80
EPA 300.0 Rev. 2.1	Chloride	98.4	98.0	98.8			1.19	
	Sulfate	96.9	96.1	96.3			0.165	
EPA 350.1 Rev. 2.0	Ammonia-N	95.8	98.0	100				1.76
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	99.0	92.8	95.4				2.54
EPA 353.2 Rev. 2.0	NO2NO3-N	104	102	102				0.491
EPA 365.1 Rev. 2.0	Total-P	97.9	103	102				0.365
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	99.1	97.5	98.5				0.952
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

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Hydrocodone	96.2	106	114		6.86
	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
	MCCP	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	94.9			2.12	
SM 2540 C-2015	TDS	96.8			6.33	
SM 2540 D-2015	TSS	96.4				
SM 4500-F- C-2011	Fluoride	100	101	101		0.0
SM 5310 B-2011	Organic Carbon	99.0	95.0	96.7		1.70

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2398932
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2398932
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2398938
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2398938
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2398932
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2398932
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2398933
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2398933
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2398933
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2398933
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2398934
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2398937
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2398932
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO3	2398938
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2398932
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2398932
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2398932
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2398933

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	04/07/2023			04/07/2023 10:53	Anna M. Plaviak	2398932
EPA 180.1 Rev. 2.0	04/07/2023			04/07/2023 10:18	Chandler E Cox	2398932
EPA 200.7 Rev. 4.4	04/07/2023	04/10/2023 11:45	George D Taylor	04/13/2023 03:24	McKinley C Carter	2398938
EPA 200.8 Rev. 5.4	04/07/2023	04/10/2023 11:45	George D Taylor	04/11/2023 15:53	Emily M Philpot	2398938
	04/07/2023	04/10/2023 11:45	George D Taylor	04/12/2023 19:18	Conrad Hartmann	2398938
EPA 300.0 Rev. 2.1	04/07/2023			04/14/2023 15:15	Anna M. Plaviak	2398932
EPA 350.1 Rev. 2.0	04/07/2023			04/13/2023 12:03	Khloe J Berg	2398933
EPA 351.2 Rev. 2.0	04/07/2023	04/24/2023 10:23	Dana G. Hughes	04/25/2023 13:00	Samantha L Bates	2398933
EPA 353.2 Rev. 2.0	04/07/2023			04/11/2023 10:41	Beverly Y. Sanders	2398933
EPA 365.1 Rev. 2.0	04/07/2023	04/10/2023 17:45	Alexis Price	04/11/2023 13:27	Simonne.V. Calhoun	2398933
EPA 365.1 Rev. 2.0 dissolved	04/07/2023			04/07/2023 11:53	Elise M. Gillis	2398934
EPA 8321B	04/07/2023	04/07/2023 15:00	Touraj Touran	04/08/2023 16:36	Manjita Shrestha	2398937
	04/07/2023	04/07/2023 15:00	Touraj Touran	04/09/2023 17:19	Manjita Shrestha	2398937
	04/07/2023	04/10/2023 09:00	Hoor Shaik	04/11/2023 01:43	Juyoung Kim	2398937
SM 2320 B-2011	04/07/2023			04/12/2023 06:24	Dale L. Simmons	2398932
SM 2340 B-2011	04/07/2023			04/13/2023 03:24	McKinley C Carter	2398938
SM 2540 C-2015	04/07/2023			04/10/2023 16:07	Yijie Li	2398932
SM 2540 D-2015	04/07/2023			04/10/2023 16:07	Yijie Li	2398932
SM 4500-F- C-2011	04/07/2023			04/19/2023 18:54	Dale L. Simmons	2398932
SM 5310 B-2011	04/07/2023			04/11/2023 03:09	Elise M. Gillis	2398933