

Chemical Analysis Report

NW-DIST-2022-08-31-02

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

Event Description: **Walton Washinton Run**
Request ID: **RQ-2022-08-29-18**
Customer: **NW-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
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Certified by: Thekkekalathil Chandrasekhar, Environmental Consultant

Date Certified: 19-SEP-2022 11:00



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: Pine Log Creek Upstream of Highway 20

Collection Date/Time: 08/30/2022 10:55

Field ID: G3NW0454

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2353379	EPA 200.7 Rev. 4.4	Calcium	1.75		mg/L	P419103	
		Iron	410		ug/L	P419103	
		Magnesium	0.38		mg/L	P419103	
		Potassium	0.30	U	mg/L	P419103	
		Sodium	1.4	I	mg/L	P419103	
		Strontium	7.0	I	ug/L	P419103	
		Tin	3.0	U	ug/L	P419103	
		Titanium	0.98	I	ug/L	P419103	
		Vanadium	2.0	U	ug/L	P419103	
		Zinc	5.0	U	ug/L	P419103	
	EPA 200.8 Rev. 5.4	Aluminum	232		ug/L	P419103	
		Antimony	0.050	U	ug/L	P419103	
		Arsenic	0.30		ug/L	P419103	
		Barium	5.07		ug/L	P419103	
		Beryllium	0.023	I	ug/L	P419103	
		Boron	8.5		ug/L	P419103	
		Cadmium	0.020	U	ug/L	P419103	
		Chromium	0.40	U	ug/L	P419103	
		Cobalt	0.098		ug/L	P419103	
		Copper	0.40	U	ug/L	P419103	
		Lead	0.22	I	ug/L	P419103	
		Manganese	7.59		ug/L	P419103	
		Molybdenum	0.15	U	ug/L	P419103	
		Nickel	0.50	U	ug/L	P419103	
		Selenium	0.20	U	ug/L	P419103	
		Silver	0.010	U	ug/L	P419103	
		Thallium	0.10	U	ug/L	P419103	
	SM 2340 B-2011	Hardness	5.9		mg/L	P419103	

Sample Location: Lafayette Creek

Collection Date/Time: 08/30/2022 11:40

Field ID: G3NW0455

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2353380	EPA 200.7 Rev. 4.4	Calcium	1.55		mg/L	P419103	
		Iron	260		ug/L	P419103	
		Magnesium	0.48		mg/L	P419103	
		Potassium	0.50	I	mg/L	P419103	
		Sodium	3.5		mg/L	P419103	
		Strontium	6.2	I	ug/L	P419103	
		Tin	3.0	U	ug/L	P419103	
		Titanium	0.99	I	ug/L	P419103	
		Vanadium	2.0	U	ug/L	P419103	
		Zinc	5.0	U	ug/L	P419103	
	EPA 200.8 Rev. 5.4	Aluminum	118		ug/L	P419103	
		Antimony	0.050	U	ug/L	P419103	
		Arsenic	0.25		ug/L	P419103	
		Barium	6.90		ug/L	P419103	
		Beryllium	0.015	I	ug/L	P419103	
		Boron	11.0		ug/L	P419103	
		Cadmium	0.020	U	ug/L	P419103	
		Chromium	0.40	U	ug/L	P419103	
		Cobalt	0.103		ug/L	P419103	
		Copper	0.40	U	ug/L	P419103	
		Lead	0.20	U	ug/L	P419103	
		Manganese	5.68		ug/L	P419103	
		Molybdenum	0.15	U	ug/L	P419103	
		Nickel	0.50	U	ug/L	P419103	
		Selenium	0.20	U	ug/L	P419103	
		Silver	0.010	U	ug/L	P419103	
		Thallium	0.10	U	ug/L	P419103	
	SM 2340 B-2011	Hardness	5.9		mg/L	P419103	

Sample Location: Panther Creek upstream of SR280

Collection Date/Time: 08/30/2022 12:10

Field ID: G3NW0061

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2353369	DEP SOP: NU-094-1	Color (true)	67	A	PCU	P418966	
	EPA 180.1 Rev. 2.0	Turbidity	5.1		NTU	P418947	
	EPA 300.0 Rev. 2.1	Chloride	3.6		mg Cl/L	P419470	
		Sulfate	1.0		mg SO4/L	P419473	
	SM 2320 B-2011	Total Alkalinity	1.7	I	mg CaCO3/L	P419035	
	SM 2540 C-2011	TDS	31		mg/L	P419429	
	SM 2540 D-2011	TSS	4	I	mg/L	P419319	
	SM 4500-F- C-2011	Fluoride	0.035	U	mg F/L	P419623	
2353370	EPA 350.1 Rev. 2.0	Ammonia-N	0.006		mg N/L	P419157	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.27		mg N/L	P419098	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.014		mg N/L	P419294	
	EPA 365.1 Rev. 2.0	Total-P	0.019		mg P/L	P419040	
	SM 5310 B-2011	Organic Carbon	6.5		mg C/L	P419186	

Ref. Method and Comment:

SM 2540 D-2011: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Sample Location: Bay Branch upstream of Hwy 331

Collection Date/Time: 08/30/2022 12:55

Field ID: G3NW0171

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2353377	EPA 8321B	2,4-D	0.0020	U	ug/L	P419091	
		Acesulfame K	0.10	U	ug/L	P418802	
		2,4,5-T	0.0040	U	ug/L	P419091	
		AMPA	0.10	U	ug/L	P418802	
		Acetaminophen	0.0080	U	ug/L	P419091	
		Acetamiprid	0.0020	U	ug/L	P419091	
		Endothall	0.25	U	ug/L	P418802	
		Glufosinate	0.10	U	ug/L	P418802	
		Glyphosate	0.10	U	ug/L	P418802	
		Afidopyropen	0.0020	U	ug/L	P419091	
		Bentazon	8.0E-04	U	ug/L	P419091	
		Sucralose	0.19		ug/L	P418802	
		Benzovindiflupyr	0.0020	U	ug/L	P419091	
		Carbamazepine	0.0018	I	ug/L	P419091	
		Clothianidin	0.0020	U	ug/L	P419091	
		Dinotefuran	0.0020	U	ug/L	P419091	
		Diuron	0.0020	U	ug/L	P419091	
		Fenuron	0.032	U	ug/L	P419091	
		Fluridone	8.0E-04	U	ug/L	P419091	
		Imazapyr	0.0080	I	ug/L	P419091	
		Hydrocodone	0.0020	U	ug/L	P419091	
		Ibuprofen	0.080	U	ug/L	P419091	
		Imidacloprid	0.0020	U	ug/L	P419091	
		Linuron	0.0040	U	ug/L	P419091	
		Mandestrobin	0.0020	U	ug/L	P419091	
		MCPP	0.0040	U	ug/L	P419091	
		Naproxen	0.0080	U	ug/L	P419091	
		Primidone	0.0040	U	ug/L	P419091	
		Pyraclostrobin	0.0020	U	ug/L	P419091	
		Silvex	0.0040	U	ug/L	P419091	
		Thiamethoxam	0.0020	U	ug/L	P419091	RPD
		Tolfenpyrad	0.0020	U	ug/L	P419091	
		Triclopyr	0.0040	U	ug/L	P419091	
2353378	EPA 200.7 Rev. 4.4	Calcium	5.76		mg/L	P419103	
		Iron	1.43E+03		ug/L	P419103	
		Magnesium	1.12		mg/L	P419103	
		Potassium	0.35	I	mg/L	P419103	
		Sodium	2.4		mg/L	P419103	
		Strontium	14.4		ug/L	P419103	
		Tin	3.0	U	ug/L	P419103	
		Titanium	1.2	I	ug/L	P419103	
		Vanadium	2.0	U	ug/L	P419103	
		Zinc	5.0	U	ug/L	P419103	
	EPA 200.8 Rev. 5.4	Aluminum	161		ug/L	P419103	

Field ID: G3NW0171

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2353378	EPA 200.8 Rev. 5.4	Antimony	0.050	U	ug/L	P419103	
		Arsenic	0.66		ug/L	P419103	
		Barium	13.5		ug/L	P419103	
		Beryllium	0.023	I	ug/L	P419103	
		Boron	10.3		ug/L	P419103	
		Cadmium	0.020	U	ug/L	P419103	
		Chromium	0.40	U	ug/L	P419103	
		Cobalt	0.121		ug/L	P419103	
		Copper	0.40	U	ug/L	P419103	
		Lead	0.28	I	ug/L	P419103	
		Manganese	16.3		ug/L	P419103	
		Molybdenum	0.15	U	ug/L	P419103	
		Nickel	0.50	U	ug/L	P419103	
		Selenium	0.20	U	ug/L	P419103	
		Silver	0.010	U	ug/L	P419103	
	SM 2340 B-2011	Thallium	0.10	U	ug/L	P419103	
		Hardness	19.0		mg/L	P419103	

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P418966

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P418947

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P419103

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: P419103

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419470

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: P419473

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419157

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419098

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P419294

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419040

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

Reference Method: EPA 8321B
Batch ID: P418802

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: P419091

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: P419091

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	0.0040	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: P419035

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

Reference Method: SM 2540 C-2011

Batch ID: P419429

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2011

Batch ID: P419319

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011

Batch ID: P419623

Component	Result	Code	Units
Fluoride	0.035	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P419186

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: P418966

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: P418947

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	96.3		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P419103

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	108		P	85 - 115
Iron	110		P	85 - 115
Magnesium	106		P	85 - 115
Potassium	104		P	85 - 115
Sodium	104		P	85 - 115
Strontium	104		P	85 - 115
Tin	110		P	85 - 115
Titanium	107		P	85 - 115
Vanadium	106		P	85 - 115
Zinc	109		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P419103

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	104		P	85 - 115
Arsenic	103		P	85 - 115
Barium	105		P	85 - 115
Beryllium	99.9		P	85 - 115
Boron	101		P	85 - 115
Cadmium	99.4		P	85 - 115
Chromium	102		P	85 - 115
Cobalt	98.9		P	85 - 115
Copper	101		P	85 - 115
Lead	92.8		P	85 - 115
Manganese	102		P	85 - 115
Molybdenum	98.8		P	85 - 115
Nickel	102		P	85 - 115
Selenium	101		P	85 - 115
Silver	88.8		P	85 - 115
Thallium	97.4		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419470

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419473

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419157

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419098

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	96.6		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P419294

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419040

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

Reference Method: EPA 8321B
Batch ID: P418802

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	101		P	40 - 150
AMPA	104		P	40 - 150
Endothall	97.1		P	40 - 150
Glufosinate	103		P	40 - 150
Glyphosate	99.6		P	40 - 150
Sucralose	97.7		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P419091

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	70.6		P	40 - 150
2,4,5-T	65.1		P	40 - 150
Acetaminophen	89.9		P	30 - 150
Acetamiprid	84.3		P	40 - 150
Afidopyropen	45.3		P	30 - 150
Bentazon	105		P	30 - 150
Benzovindiflupyr	101		P	40 - 150
Carbamazepine	74.8		P	40 - 150
Clothianidin	81.4		P	40 - 150
Dinotefuran	87.1		P	40 - 150
Diuron	88.7		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P419091

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fenuron	109		P	40 - 150
Fluridone	95.9		P	40 - 150
Hydrocodone	89.5		P	40 - 150
Ibuprofen	59.6		P	40 - 150
Imazapyr	79.6		P	40 - 150
Imidacloprid	99.9		P	40 - 150
Linuron	102		P	40 - 150
Mandestrobin	99.6		P	40 - 150
MCPP	83.0		P	40 - 150
Naproxen	115		P	40 - 150
Primidone	116		P	40 - 150
Pyraclostrobin	89.3		P	40 - 150
Silvex	59.6		P	40 - 150
Thiamethoxam	108		P	40 - 150
Tolfenpyrad	41.5		P	30 - 150
Triclopyr	60.1		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P419035

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

Reference Method: SM 4500-F- C-2011
Batch ID: P419623

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.0		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P419186

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	96.5		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P419103

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2353636	Calcium	105		P	80 - 120
2353636	Iron	110	106	P/P	80 - 120
2353636	Magnesium	105		P	80 - 120
2353636	Potassium	101		P	80 - 120
2353636	Sodium	103		P	80 - 120
2353636	Strontium	104	103	P/P	80 - 120
2353636	Tin	110	109	P/P	80 - 120
2353636	Titanium	109	109	P/P	80 - 120
2353636	Vanadium	107	107	P/P	80 - 120
2353636	Zinc	106	107	P/P	80 - 120
2353686	Calcium	111		P	80 - 120
2353686	Iron	111		P	80 - 120
2353686	Magnesium	110		P	80 - 120
2353686	Potassium	114		P	80 - 120
2353686	Sodium	108		P	80 - 120
2353686	Strontium	105		P	80 - 120
2353686	Tin	111		P	80 - 120
2353686	Titanium	110		P	80 - 120
2353686	Vanadium	108		P	80 - 120
2353686	Zinc	109		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P419103

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2353636	Aluminum	99.6	99.7	P/P	80 - 120
2353636	Antimony	106	106	P/P	80 - 120
2353636	Arsenic	104	103	P/P	80 - 120
2353636	Barium	104	105	P/P	80 - 120
2353636	Beryllium	103	99.0	P/P	80 - 120
2353636	Boron	97.9	97.4	P/P	80 - 120
2353636	Cadmium	101	102	P/P	80 - 120
2353636	Chromium	100	100	P/P	80 - 120
2353636	Cobalt	97.8	97.3	P/P	80 - 120
2353636	Copper	96.5	97.2	P/P	80 - 120
2353636	Lead	93.6	93.7	P/P	80 - 120
2353636	Manganese	100	93.5	P/P	80 - 120
2353636	Molybdenum	102	102	P/P	80 - 120
2353636	Nickel	101	99.4	P/P	80 - 120
2353636	Selenium	102	101	P/P	80 - 120
2353636	Silver	86.9	87.8	P/P	80 - 120
2353636	Thallium	99.4	100	P/P	80 - 120
2353686	Aluminum	101		P	80 - 120
2353686	Antimony	105		P	80 - 120
2353686	Arsenic	105		P	80 - 120
2353686	Barium	105		P	80 - 120
2353686	Beryllium	99.9		P	80 - 120
2353686	Boron	99.4		P	80 - 120
2353686	Cadmium	99.0		P	80 - 120
2353686	Chromium	104		P	80 - 120
2353686	Cobalt	98.2		P	80 - 120
2353686	Copper	104		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P419103

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2353686	Lead	93.5		P	80 - 120
2353686	Manganese	102		P	80 - 120
2353686	Molybdenum	100		P	80 - 120
2353686	Nickel	102		P	80 - 120
2353686	Selenium	101		P	80 - 120
2353686	Silver	87.6		P	80 - 120
2353686	Thallium	97.7		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419470

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2353590	Chloride	100		P	90 - 110
2353615	Chloride	102		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419473

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2353590	Sulfate	99.8		P	90 - 110
2353615	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419157

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2353216	Ammonia-N	98.8	99.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419098

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2353658	Kjeldahl Nitrogen	101	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P419294

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2353316	NO2NO3-N	99.5	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419040

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2353370	Total-P	104	105	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P418802

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352891	Acesulfame K	99.6	98.9	P/P	40 - 150
2352891	AMPA	105	108	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P418802

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2352891	Endothall	92.9	96.0	P/P	40 - 150
2352891	Glufosinate	96.5	94.1	P/P	40 - 150
2352891	Glyphosate	87.9	83.3	P/P	40 - 150
2352891	Sucralose	95.8	95.0	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P419091

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2353620	2,4-D	71.7	66.0	P/P	40 - 150
2353620	2,4,5-T	64.5	68.3	P/P	40 - 150
2353620	Acetaminophen	80.1	90.7	P/P	30 - 150
2353620	Acetamiprid	56.4	54.3	P/P	40 - 150
2353620	Afidopyropen	39.6	33.7	P/P	30 - 150
2353620	Bentazon	107	107	P/P	30 - 150
2353620	Benzovindiflupyr	93.6	91.6	P/P	40 - 150
2353620	Carbamazepine	88.5	93.3	P/P	40 - 150
2353620	Clothianidin	87.5	83.3	P/P	40 - 150
2353620	Dinotefuran	91.7	96.9	P/P	40 - 150
2353620	Diuron	84.1	84.6	P/P	40 - 150
2353620	Fenuron	96.2	87.2	P/P	40 - 150
2353620	Fluridone	83.4	106	P/P	40 - 150
2353620	Hydrocodone	87.9	118	P/P	40 - 150
2353620	Ibuprofen	62.6	55.4	P/P	40 - 150
2353620	Imazapyr	67.6	78.3	P/P	40 - 150
2353620	Imidacloprid	95.6	107	P/P	40 - 150
2353620	Linuron	86.4	110	P/P	40 - 150
2353620	Mandestrobin	97.6	99.8	P/P	40 - 150
2353620	MCP	70.8	75.1	P/P	40 - 150
2353620	Naproxen	64.6	87.4	P/P	40 - 150
2353620	Primidone	79.2	97.3	P/P	40 - 150
2353620	Pyraclostrobin	93.8	101	P/P	40 - 150
2353620	Silvex	66.0	64.8	P/P	40 - 150
2353620	Thiamethoxam	77.7	115	P/P	40 - 150
2353620	Tolfenpyrad	59.1	63.6	P/P	30 - 150
2353620	Triclopyr	57.3	66.9	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P419623

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2353393	Fluoride	98.2	97.5	P/P	94 - 104

Reference Method: SM 5310 B-2011

Batch ID: P419186

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2353290	Organic Carbon	96.4	96.4	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P418966

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353369	Color (true)	1.86	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P418947

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353300	Turbidity	1.72	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P419103

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353636	Calcium	2.26	Spike	P	0 - 20
2353636	Iron	3.28	Spike	P	0 - 20
2353636	Magnesium	3.69	Spike	P	0 - 20
2353636	Potassium	2.49	Spike	P	0 - 20
2353636	Sodium	1.54	Spike	P	0 - 20
2353636	Strontium	0.885	Spike	P	0 - 20
2353636	Tin	1.01	Spike	P	0 - 20
2353636	Titanium	0.407	Spike	P	0 - 20
2353636	Vanadium	0.0197	Spike	P	0 - 20
2353636	Zinc	0.246	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P419103

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353636	Aluminum	0.0665	Spike	P	0 - 20
2353636	Antimony	0.276	Spike	P	0 - 20
2353636	Arsenic	1.06	Spike	P	0 - 20
2353636	Barium	1.12	Spike	P	0 - 20
2353636	Beryllium	3.66	Spike	P	0 - 20
2353636	Boron	0.254	Spike	P	0 - 20
2353636	Cadmium	0.672	Spike	P	0 - 20
2353636	Chromium	0.279	Spike	P	0 - 20
2353636	Cobalt	0.515	Spike	P	0 - 20
2353636	Copper	0.734	Spike	P	0 - 20
2353636	Lead	0.104	Spike	P	0 - 20
2353636	Manganese	1.13	Spike	P	0 - 20
2353636	Molybdenum	0.0878	Spike	P	0 - 20
2353636	Nickel	1.67	Spike	P	0 - 20
2353636	Selenium	0.515	Spike	P	0 - 20
2353636	Silver	0.959	Spike	P	0 - 20
2353636	Thallium	0.972	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419470

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353590	Chloride	0.461	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P419473

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353590	Sulfate	0.382	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P419157

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353216	Ammonia-N	0.359	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P419098

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353658	Kjeldahl Nitrogen	0.516	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P419294

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353316	NO2NO3-N	0.504	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P419040

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353370	Total-P	0.481	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P418802

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2352891	Acesulfame K	0.674	Spike	P	0 - 30
2352891	AMPA	2.20	Spike	P	0 - 30
2352891	Endothall	3.24	Spike	P	0 - 30
2352891	Glufosinate	2.45	Spike	P	0 - 30
2352891	Glyphosate	5.37	Spike	P	0 - 30
2352891	Sucralose	0.783	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P419091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353620	2,4-D	8.28	Spike	P	0 - 30
2353620	2,4,5-T	5.75	Spike	P	0 - 30
2353620	Acetaminophen	12.4	Spike	P	0 - 30
2353620	Acetamiprid	3.84	Spike	P	0 - 30
2353620	Afidopyropen	16.1	Spike	P	0 - 30
2353620	Bentazon	0.0786	Spike	P	0 - 30
2353620	Benzovindiflupyr	2.20	Spike	P	0 - 30
2353620	Carbamazepine	4.77	Spike	P	0 - 30
2353620	Clothianidin	4.86	Spike	P	0 - 30
2353620	Dinotefuran	5.51	Spike	P	0 - 30
2353620	Diuron	0.445	Spike	P	0 - 30
2353620	Fenuron	9.79	Spike	P	0 - 30
2353620	Fluridone	23.5	Spike	P	0 - 30
2353620	Hydrocodone	29.2	Spike	P	0 - 30
2353620	Ibuprofen	12.2	Spike	P	0 - 30
2353620	Imazapyr	12.4	Spike	P	0 - 30
2353620	Imidacloprid	9.49	Spike	P	0 - 30
2353620	Linuron	23.9	Spike	P	0 - 30
2353620	Mandestrobin	2.22	Spike	P	0 - 30
2353620	MCP	5.91	Spike	P	0 - 30
2353620	Naproxen	30.0	Spike	P	0 - 30
2353620	Primidone	20.5	Spike	P	0 - 30
2353620	Pyraclostrobin	7.29	Spike	P	0 - 30
2353620	Silvex	1.78	Spike	P	0 - 30
2353620	Thiamethoxam	38.8	Spike	F	0 - 30
2353620	Tolfenpyrad	7.47	Spike	P	0 - 30
2353620	Triclopyr	15.6	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P419035

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353351	Total Alkalinity	0.596	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2011
Batch ID: P419429

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353393	TDS	2.89	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P419623

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353393	Fluoride	0.476	Spike	P	0 - 1.6

Quality Assurance Report

Precision

Reference Method: SM 5310 B-2011
Batch ID: P419186

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2353290	Organic Carbon	0.0	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2353377

Field Sample ID: G3NW0171

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	79.9	P	30 - 160
EPA 8321B	Acetaminophen-d4	57.2	P	30 - 160
EPA 8321B	Carbamazepine-d10	71.7	P	30 - 160
EPA 8321B	Diuron-d6	69.3	P	30 - 160
EPA 8321B	Endothall-d6	108	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	95.4	P	30 - 160
EPA 8321B	Ibuprofen-d3	81.6	P	30 - 160
EPA 8321B	Primidone-d5	47.8	P	30 - 160
EPA 8321B	Sucralose-d6	99.8	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A114462

Included Lab Sample IDs: 2353369

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

Reference Method: DEP SOP: NU-094-1

Run ID: A114473

Included Lab Sample IDs: 2353369

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

Reference Method: SM 2320 B-2011

Run ID: A114506

Included Lab Sample IDs: 2353369

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	106	99.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A114548

Included Lab Sample IDs: 2353370

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.8	99.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A114551

Included Lab Sample IDs: 2353377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	104	107	P/P	60 - 160
Sucralose	97.6	102	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A114552

Included Lab Sample IDs: 2353377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	102	103	P/P	60 - 160
Endothall	88.2	88.4	P/P	60 - 160
Glufosinate	81.0	92.7	P/P	60 - 160
Glyphosate	97.6	105	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A114553

Included Lab Sample IDs: 2353370

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.7	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 5310 B-2011

Run ID: A114570

Included Lab Sample IDs: 2353370

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	95.4	95.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A114576

Included Lab Sample IDs: 2353370

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A114600

Included Lab Sample IDs: 2353369

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

Reference Method: EPA 8321B

Run ID: A114605

Included Lab Sample IDs: 2353377

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	88.7	99.8	P/P	50 - 150
2,4,5-T	93.1	99.9	P/P	50 - 150
Acetaminophen	78.2	90.4	P/P	60 - 160
Acetamiprid	102	90.8	P/P	50 - 150
Afidopyropen	96.3	105	P/P	50 - 150
Bentazon	107	95.2	P/P	50 - 160
Benzovindiflupyr	118	105	P/P	50 - 150
Carbamazepine	112	117	P/P	60 - 150
Clothianidin	92.1	106	P/P	60 - 150
Dinotefuran	101	84.1	P/P	50 - 150
Diuron	99.8	100	P/P	60 - 160
Fenuron	94.2	95.2	P/P	60 - 150
Fluridone	120	113	P/P	60 - 160
Hydrocodone	116	92.9	P/P	60 - 150
Ibuprofen	61.4	109	P/P	50 - 160
Imazapyr	89.5	90.1	P/P	50 - 150
Imidacloprid	130	85.7	P/P	60 - 150
Linuron	106	117	P/P	60 - 150
Mandestrobin	102	112	P/P	50 - 150
MCPP	89.8	105	P/P	50 - 150
Naproxen	118	137	P/P	50 - 160
Primidone	68.2	93.7	P/P	60 - 150
Pyraclostrobin	112	114	P/P	60 - 150
Silvex	70.1	96.6	P/P	50 - 150
Thiamethoxam	67.4	97.4	P/P	50 - 150
Tolfenpyrad	119	118	P/P	60 - 150
Triclopyr	96.8	105	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A114607

Included Lab Sample IDs: 2353370

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A114629

Included Lab Sample IDs: 2353378, 2353379, 2353380

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	98.2	97.5	P/P	90 - 110
Antimony	101	101	P/P	90 - 110
Arsenic	105	105	P/P	90 - 110
Barium	100	99.7	P/P	90 - 110
Beryllium	102	101	P/P	90 - 110
Boron	95.1	94.4	P/P	90 - 110
Cadmium	104	103	P/P	90 - 110
Chromium	104	104	P/P	90 - 110
Cobalt	99.4	99.6	P/P	90 - 110
Copper	103	103	P/P	90 - 110
Lead	91.6	91.4	P/P	90 - 110
Manganese	103	104	P/P	90 - 110
Molybdenum	98.8	99.5	P/P	90 - 110
Nickel	102	103	P/P	90 - 110
Selenium	102	102	P/P	90 - 110
Silver	98.6	98.6	P/P	90 - 110
Thallium	102	103	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4

Run ID: A114713

Included Lab Sample IDs: 2353378, 2353379, 2353380

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	107	106	P/P	90 - 110
Calcium	107	107	P/P	90 - 110
Iron	107	108	P/P	90 - 110
Iron	109	107	P/P	90 - 110
Magnesium	107	107	P/P	90 - 110
Magnesium	109	107	P/P	90 - 110
Potassium	103	104	P/P	90 - 110
Potassium	105	103	P/P	90 - 110
Sodium	103	103	P/P	90 - 110
Sodium	103	103	P/P	90 - 110
Strontium	101	99.7	P/P	90 - 110
Strontium	99.6	101	P/P	90 - 110
Tin	104	107	P/P	90 - 110
Tin	107	105	P/P	90 - 110
Titanium	101	104	P/P	90 - 110
Titanium	104	103	P/P	90 - 110
Vanadium	102	103	P/P	90 - 110
Vanadium	103	102	P/P	90 - 110
Zinc	103	105	P/P	90 - 110
Zinc	105	104	P/P	90 - 110

Quality Assurance Report

Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A114739

Included Lab Sample IDs: 2353369

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	99.5	100	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)	101				1.86	
EPA 180.1 Rev. 2.0	Turbidity	96.3				1.72	
EPA 200.7 Rev. 4.4	Calcium	108	105	111			2.26
	Iron	110	110	106	111		3.28
	Magnesium	106	105	110			3.69
	Potassium	104	101	114			2.49
	Sodium	104	103	108			1.54
	Strontium	104	104	103	105		0.885
	Tin	110	110	109	111		1.01
	Titanium	107	109	109	110		0.407
	Vanadium	106	107	107	108		0.0197
	Zinc	109	106	107	109		0.246
EPA 200.8 Rev. 5.4	Aluminum	102	99.6	99.7	101		0.0665
	Antimony	104	106	106	105		0.276
	Arsenic	103	104	103	105		1.06
	Barium	105	104	105	105		1.12
	Beryllium	99.9	103	99.0	99.9		3.66
	Boron	101	97.9	97.4	99.4		0.254
	Cadmium	99.4	101	102	99.0		0.672
	Chromium	102	100	100	104		0.279
	Cobalt	98.9	97.8	97.3	98.2		0.515
	Copper	101	96.5	97.2	104		0.734
	Lead	92.8	93.6	93.7	93.5		0.104
	Manganese	102	100	93.5	102		1.13
	Molybdenum	98.8	102	102	100		0.0878
	Nickel	102	101	99.4	102		1.67
	Selenium	101	102	101	101		0.515
	Silver	88.8	86.9	87.8	87.6		0.959
	Thallium	97.4	99.4	100	97.7		0.972
EPA 300.0 Rev. 2.1	Chloride	102	100	102		0.461	
	Sulfate	101	99.8	101		0.382	
EPA 350.1 Rev. 2.0	Ammonia-N	99.0	98.8	99.4			0.359
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.6	101	102			0.516
EPA 353.2 Rev. 2.0	NO2NO3-N	100	99.5	99.0			0.504
EPA 365.1 Rev. 2.0	Total-P	104	104	105			0.481
EPA 8321B	2,4-D	70.6	71.7	66.0			8.28
	2,4,5-T	65.1	64.5	68.3			5.75
	Acesulfame K	101	99.6	98.9			0.674
	Acetaminophen	89.9	80.1	90.7			12.4
	Acetamiprid	84.3	56.4	54.3			3.84
	Afidopyropen	45.3	39.6	33.7			16.1
	AMPA	104	105	108			2.20
	Bentazon	105	107	107			0.0786
	Benzovindiflupyr	101	93.6	91.6			2.20
	Carbamazepine	74.8	88.5	93.3			4.77
	Clothianidin	81.4	87.5	83.3			4.86
	Dinotefuran	87.1	91.7	96.9			5.51
	Diuron	88.7	84.1	84.6			0.445
	Endothall	97.1	92.9	96.0			3.24
	Fenuron	109	96.2	87.2			9.79
	Fluridone	95.9	83.4	106			23.5
	Glufosinate	103	96.5	94.1			2.45
	Glyphosate	99.6	87.9	83.3			5.37
	Hydrocodone	89.5	87.9	118			29.2

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision LCS	SMP	MS
EPA 8321B	Ibuprofen	59.6	62.6	55.4			12.2
	Imazapyr	79.6	67.6	78.3			12.4
	Imidacloprid	99.9	95.6	107			9.49
	Linuron	102	86.4	110			23.9
	Mandestrobin	99.6	97.6	99.8			2.22
	MCPP	83.0	70.8	75.1			5.91
	Naproxen	115	64.6	87.4			30.0
	Primidone	116	79.2	97.3			20.5
	Pyraclostrobin	89.3	93.8	101			7.29
	Silvex	59.6	66.0	64.8			1.78
	Sucralose	97.7	95.8	95.0			0.783
	Thiamethoxam	108	77.7	115			38.8
	Tolfenpyrad	41.5	59.1	63.6			7.47
	Triclopyr	60.1	57.3	66.9			15.6
SM 2320 B-2011	Total Alkalinity	106				0.596	
SM 2540 C-2011	TDS					2.89	
SM 4500-F- C-2011	Fluoride	99.0	98.2	97.5			0.476
SM 5310 B-2011	Organic Carbon	96.5	96.4	96.4			0.0

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2353369
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2353369
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2353378, 2353379, 2353380
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2353378, 2353379, 2353380
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2353369
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2353369
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2353370
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2353370
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2353370
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2353370
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2353377
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2353369
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2353378, 2353379, 2353380
SM 2540 C-2011	Total Dissolved Solids in aqueous matrices	2353369
SM 2540 D-2011	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2353369
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2353369
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2353370

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	08/31/2022			08/31/2022 15:39	Blanca Fach	2353369
EPA 180.1 Rev. 2.0	08/31/2022			08/31/2022 14:47	Chandler E Cox	2353369
EPA 200.7 Rev. 4.4	08/31/2022	09/06/2022 10:20	Megan Whitefoot	09/14/2022 05:55	McKinley C Carter	2353378
	08/31/2022	09/06/2022 10:20	Megan Whitefoot	09/14/2022 06:30	McKinley C Carter	2353379
	08/31/2022	09/06/2022 10:20	Megan Whitefoot	09/14/2022 06:36	McKinley C Carter	2353380
EPA 200.8 Rev. 5.4	08/31/2022	09/06/2022 10:20	Megan Whitefoot	09/08/2022 22:28	Megan Whitefoot	2353378
	08/31/2022	09/06/2022 10:20	Megan Whitefoot	09/08/2022 22:38	Megan Whitefoot	2353379
	08/31/2022	09/06/2022 10:20	Megan Whitefoot	09/08/2022 22:48	Megan Whitefoot	2353380
EPA 300.0 Rev. 2.1	08/31/2022			09/10/2022 09:14	Anna M. Plaviak	2353369
EPA 350.1 Rev. 2.0	08/31/2022			09/06/2022 14:39	Judith K. Clark	2353370
EPA 351.2 Rev. 2.0	08/31/2022	09/06/2022 14:30	Alexandra J Mattheus	09/07/2022 11:57	Alexandra J Mattheus	2353370
EPA 353.2 Rev. 2.0	08/31/2022			09/08/2022 10:21	Beverly Y. Sanders	2353370
EPA 365.1 Rev. 2.0	08/31/2022	09/02/2022 10:28	Simonne.V. Calhoun	09/06/2022 13:30	James L Waggeberby	2353370
EPA 8321B	08/31/2022	09/01/2022 14:00	Umesh Chiluwal	09/02/2022 01:52	Umesh Chiluwal	2353377
	08/31/2022	09/01/2022 14:00	Umesh Chiluwal	09/03/2022 02:52	Umesh Chiluwal	2353377
	08/31/2022	09/06/2022 09:30	June Rhew	09/08/2022 10:47	Juyoung Kim	2353377
SM 2320 B-2011	08/31/2022			09/02/2022 06:48	Dale L. Simmons	2353369
SM 2340 B-2011	08/31/2022			09/14/2022 05:55	McKinley C Carter	2353378
	08/31/2022			09/14/2022 06:30	McKinley C Carter	2353379
	08/31/2022			09/14/2022 06:36	McKinley C Carter	2353380
SM 2540 C-2011	08/31/2022			09/02/2022 16:08	Yijie Li	2353369
SM 2540 D-2011	08/31/2022			09/02/2022 16:08	Yijie Li	2353369
SM 4500-F- C-2011	08/31/2022			09/15/2022 05:05	Dale L. Simmons	2353369
SM 5310 B-2011	08/31/2022			09/07/2022 06:54	Khloe J Berg	2353370