

Chemical Analysis Report

SO-DIST-2022-12-01-01

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

Event Description: **2022 SMP : Gopher & Bonnet**
Request ID: **RQ-2022-11-28-48**
Customer: **SO-DIST**
Project ID: **SMP**

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Date Certified: 21-DEC-2022 12:51



Case Narrative

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

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

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

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

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

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

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

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

Precision is reported as relative percent difference unless otherwise noted.

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

QC Codes used in this report may include:

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

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

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

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

Sample Location: Bonnet Creek @ SR 64

Collection Date/Time: 11/30/2022 09:50

Field ID: G4SD0107

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2372124	DEP SOP: NU-094-1	Color (true)	310		PCU	P422995	
	EPA 180.1 Rev. 2.0	Turbidity	1.8		NTU	P423008	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P423343	
		Sulfate	14		mg SO4/L	P423345	
	SM 2320 B-2011	Total Alkalinity	13		mg CaCO3/L	P423195	
	SM 2540 C-2015	TDS	153		mg/L	P423544	
	SM 2540 D-2015	TSS	4	I	mg/L	P423370	
2372125	SM 4500-F- C-2011	Fluoride	0.075	I	mg F/L	P423197	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.014		mg N/L	P423376	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.1		mg N/L	P423101	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.093		mg N/L	P423142	
	EPA 365.1 Rev. 2.0	Total-P	0.68		mg P/L	P423031	
2372133	SM 5310 B-2011	Organic Carbon	28		mg C/L	P423261	
	EPA 8321B	2,4-D	0.0020	U	ug/L	P422936	
		Acesulfame K	0.10	U	ug/L	P422875	
		2,4,5-T	0.0040	U	ug/L	P422936	
		AMPA	0.30	I	ug/L	P422875	
		Acetaminophen	0.0080	U	ug/L	P422936	
		Acetamiprid	0.0020	U	ug/L	P422936	
		Endothall	0.25	U	ug/L	P422875	
		Glufosinate	0.10	U	ug/L	P422875	
		Glyphosate	0.10	U	ug/L	P422875	
		Afidopyropen	0.0020	U	ug/L	P422936	
		Bentazon	0.0028	I	ug/L	P422936	
		Sucralose	0.011	I	ug/L	P422875	
		Benzovindiflupyr	0.0020	U	ug/L	P422936	
		Carbamazepine	8.0E-04	U	ug/L	P422936	
		Clothianidin	0.025		ug/L	P422936	
		Dinotefuran	0.0020	U	ug/L	P422936	
		Diuron	0.0020	U	ug/L	P422936	
		Fenuron	0.032	U	ug/L	P422936	
		Fluridone	8.0E-04	U	ug/L	P422936	
		Imazapyr	0.0040	U	ug/L	P422936	
		Hydrocodone	0.0020	U	ug/L	P422936	
		Ibuprofen	0.20	U	ug/L	P422936	
		Imidacloprid	0.038		ug/L	P422936	
		Linuron	0.0040	U	ug/L	P422936	
		Mandestrobin	0.0020	U	ug/L	P422936	
		MCP	0.0040	U	ug/L	P422936	
		Naproxen	0.0080	U	ug/L	P422936	
		Primidone	0.0040	U	ug/L	P422936	
		Pyraclostrobin	0.0020	U	ug/L	P422936	
		Silvex	0.0040	U	ug/L	P422936	
		Thiamethoxam	0.19		ug/L	P422936	

Field ID: G4SD0107

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2372133	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P422936	
		Triclopyr	0.0040	U	ug/L	P422936	
2372134	EPA 200.7 Rev. 4.4	Calcium	10.3		mg/L	P423011	
		Iron	200		ug/L	P423011	
		Magnesium	5.44		mg/L	P423011	
		Potassium	10.8		mg/L	P423011	
		Sodium	7.6		mg/L	P423011	
		Strontium	173		ug/L	P423011	
		Tin	3.0	U	ug/L	P423011	
		Titanium	1.2	I	ug/L	P423011	
		Vanadium	2.0	U	ug/L	P423011	
		Zinc	5.0	U	ug/L	P423011	
	EPA 200.8 Rev. 5.4	Aluminum	152		ug/L	P423011	
		Antimony	0.050	U	ug/L	P423011	
		Arsenic	0.46		ug/L	P423011	
		Barium	8.13		ug/L	P423011	
		Beryllium	0.014	I	ug/L	P423011	
		Boron	28.4		ug/L	P423011	
		Cadmium	0.020	U	ug/L	P423011	
		Chromium	0.40	I	ug/L	P423011	
		Cobalt	0.145		ug/L	P423011	
		Copper	1.19		ug/L	P423011	
		Lead	0.20	U	ug/L	P423011	
		Manganese	7.39		ug/L	P423011	
		Molybdenum	0.18	I	ug/L	P423011	
		Nickel	0.50	U	ug/L	P423011	
		Selenium	0.20	U	ug/L	P423011	
		Silver	0.010	U	ug/L	P423011	
		Thallium	0.10	U	ug/L	P423011	
	SM 2340 B-2011	Hardness	48.1		mg/L	P423011	

Ref. Method and Comment:

SM 2540 C-2015: Batch relative percent difference is unavailable because of analytical difficulties.

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

EPA 200.7 Rev. 4.4: Batch matrix spike recoveries for calcium are unavailable for one of two spiked samples because of high analyte concentration in the QC sample.

Sample Location: Gopher Gully At US27

Collection Date/Time: 11/30/2022 11:10

Field ID: G4SD0216

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2372126	DEP SOP: NU-094-1	Color (true)	820		PCU	P422995	
	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P423008	
	EPA 300.0 Rev. 2.1	Chloride	54		mg Cl/L	P423343	
		Sulfate	1.9		mg SO4/L	P423345	
	SM 2320 B-2011	Total Alkalinity	13		mg CaCO3/L	P423195	
	SM 2540 C-2015	TDS	290		mg/L	P423544	
	SM 2540 D-2015	TSS	10		mg/L	P423370	
	SM 4500-F- C-2011	Fluoride	0.10		mg F/L	P423197	
2372127	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P423376	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	3.6		mg N/L	P423101	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P423142	
	EPA 365.1 Rev. 2.0	Total-P	0.76		mg P/L	P423066	
	SM 5310 B-2011	Organic Carbon	85		mg C/L	P423261	

Ref. Method and Comment:

SM 2540 C-2015: Batch relative percent difference is unavailable because of analytical difficulties.

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

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P422995

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P423008

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P423011

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: P423011

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: P423343

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: P423345

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423376

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P423101

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P423142

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P423031

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P423066

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

Reference Method: EPA 8321B
Batch ID: P422875

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: P422936

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: P422936

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	0.20	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: P423195

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

Reference Method: SM 2540 C-2015

Batch ID: P423544

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015

Batch ID: P423370

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011

Batch ID: P423197

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011

Batch ID: P423261

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: P422995

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	100		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P423008

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P423011

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	107		P	85 - 115
Iron	108		P	85 - 115
Magnesium	104		P	85 - 115
Potassium	107		P	85 - 115
Sodium	105		P	85 - 115
Strontium	104		P	85 - 115
Tin	104		P	85 - 115
Titanium	105		P	85 - 115
Vanadium	102		P	85 - 115
Zinc	101		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P423011

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	102		P	85 - 115
Antimony	104		P	85 - 115
Arsenic	102		P	85 - 115
Barium	104		P	85 - 115
Beryllium	99.1		P	85 - 115
Boron	100		P	85 - 115
Cadmium	103		P	85 - 115
Chromium	99.3		P	85 - 115
Cobalt	97.0		P	85 - 115
Copper	99.0		P	85 - 115
Lead	92.8		P	85 - 115
Manganese	100		P	85 - 115
Molybdenum	99.2		P	85 - 115
Nickel	101		P	85 - 115
Selenium	106		P	85 - 115
Silver	99.9		P	85 - 115
Thallium	99.5		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P423343

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P423345

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: P423376

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P423101

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P423142

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: P423031

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P423066

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

Reference Method: EPA 8321B
Batch ID: P422875

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	108		P	40 - 150
AMPA	90.0		P	40 - 150
Endothall	85.5		P	40 - 150
Glufosinate	80.1		P	40 - 150
Glyphosate	100		P	40 - 150
Sucralose	97.3		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P422936

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	89.2		P	40 - 150
2,4,5-T	84.0		P	40 - 150
Acetaminophen	81.3		P	30 - 150
Acetamiprid	83.5		P	40 - 150
Afidopyropen	67.9		P	30 - 150

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P422936

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Bentazon	91.8		P	30 - 150
Benzovindiflupyr	81.1		P	40 - 150
Carbamazepine	92.4		P	40 - 150
Clothianidin	97.5		P	40 - 150
Dinotefuran	84.4		P	40 - 150
Diuron	81.0		P	40 - 150
Fenuron	106		P	40 - 150
Fluridone	99.3		P	40 - 150
Hydrocodone	98.2		P	40 - 150
Ibuprofen	95.6		P	40 - 150
Imazapyr	83.1		P	40 - 150
Imidacloprid	101		P	40 - 150
Linuron	78.0		P	40 - 150
Mandestrobin	90.7		P	40 - 150
MCPP	90.4		P	40 - 150
Naproxen	92.0		P	40 - 150
Primidone	90.8		P	40 - 150
Pyraclostrobin	85.0		P	40 - 150
Silvex	84.4		P	40 - 150
Thiamethoxam	92.3		P	40 - 150
Tolfenpyrad	45.7		P	30 - 150
Triclopyr	88.0		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P423195

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	97.9		P	94 - 106

Reference Method: SM 2540 C-2015

Batch ID: P423544

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	92.4		P	90 - 110

Reference Method: SM 2540 D-2015

Batch ID: P423370

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	91.5		P	85 - 106

Reference Method: SM 4500-F- C-2011

Batch ID: P423197

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

Reference Method: SM 5310 B-2011

Batch ID: P423261

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	94.0		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P423011

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372033	Calcium	104		P	80 - 120
2372033	Iron	107	106	P/P	80 - 120
2372033	Magnesium	103		P	80 - 120
2372033	Potassium	110	109	P/P	80 - 120
2372033	Sodium	105		P	80 - 120
2372033	Strontium	99.8	102	P/P	80 - 120
2372033	Tin	104	106	P/P	80 - 120
2372033	Titanium	104	106	P/P	80 - 120
2372033	Vanadium	103	105	P/P	80 - 120
2372033	Zinc	98.9	100	P/P	80 - 120
2372034	Iron	106		P	80 - 120
2372034	Magnesium	102		P	80 - 120
2372034	Potassium	102		P	80 - 120
2372034	Sodium	106		P	80 - 120
2372034	Strontium	100		P	80 - 120
2372034	Tin	103		P	80 - 120
2372034	Titanium	102		P	80 - 120
2372034	Vanadium	103		P	80 - 120
2372034	Zinc	96.9		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P423011

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372033	Aluminum	101	100	P/P	80 - 120
2372033	Antimony	107	107	P/P	80 - 120
2372033	Arsenic	103	102	P/P	80 - 120
2372033	Barium	105	104	P/P	80 - 120
2372033	Beryllium	98.7	98.5	P/P	80 - 120
2372033	Boron	99.7	97.0	P/P	80 - 120
2372033	Cadmium	108	105	P/P	80 - 120
2372033	Chromium	102	102	P/P	80 - 120
2372033	Cobalt	96.7	95.4	P/P	80 - 120
2372033	Copper	96.5	94.8	P/P	80 - 120
2372033	Lead	93.7	92.8	P/P	80 - 120
2372033	Manganese	102	103	P/P	80 - 120
2372033	Molybdenum	104	104	P/P	80 - 120
2372033	Nickel	99.4	99.0	P/P	80 - 120
2372033	Selenium	106	103	P/P	80 - 120
2372033	Silver	99.4	99.4	P/P	80 - 120
2372033	Thallium	102	102	P/P	80 - 120
2372034	Aluminum	99.3		P	80 - 120
2372034	Antimony	108		P	80 - 120
2372034	Arsenic	101		P	80 - 120
2372034	Barium	105		P	80 - 120
2372034	Beryllium	97.6		P	80 - 120
2372034	Boron	97.7		P	80 - 120
2372034	Cadmium	105		P	80 - 120
2372034	Chromium	102		P	80 - 120
2372034	Cobalt	94.4		P	80 - 120
2372034	Copper	93.4		P	80 - 120
2372034	Lead	93.4		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P423011

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372034	Manganese	104		P	80 - 120
2372034	Molybdenum	103		P	80 - 120
2372034	Nickel	98.0		P	80 - 120
2372034	Selenium	104		P	80 - 120
2372034	Silver	99.9		P	80 - 120
2372034	Thallium	101		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P423343

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372194	Chloride	99.7		P	90 - 110
2372326	Chloride	99.9		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1

Batch ID: P423345

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372194	Sulfate	97.2		P	90 - 110
2372326	Sulfate	98.9		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Batch ID: P423376

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372138	Ammonia-N	97.0	98.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Batch ID: P423101

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372094	Kjeldahl Nitrogen	102	102	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P423142

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372094	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P423031

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372065	Total-P	108	106	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P423066

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372138	Total-P	104	106	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P422875

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2371390	Acesulfame K	59.4	56.4	P/P	40 - 150
2371390	AMPA	81.4	76.5	P/P	40 - 150
2371390	Endothall	62.1	67.7	P/P	40 - 150
2371390	Glufosinate	76.2	77.2	P/P	40 - 150
2371390	Glyphosate	95.7	98.0	P/P	40 - 150
2371390	Sucralose	88.7	89.9	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P422936

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2371586	2,4-D	83.6	82.0	P/P	40 - 150
2371586	2,4,5-T	81.4	83.8	P/P	40 - 150
2371586	Acetaminophen	83.4	92.0	P/P	30 - 150
2371586	Acetamiprid	77.0	76.7	P/P	40 - 150
2371586	Afidopyropen	59.8	60.9	P/P	30 - 150
2371586	Bentazon	97.0	103	P/P	30 - 150
2371586	Benzovindiflupyr	79.9	92.6	P/P	40 - 150
2371586	Carbamazepine	91.5	103	P/P	40 - 150
2371586	Clothianidin	99.9	105	P/P	40 - 150
2371586	Dinotefuran	90.9	97.6	P/P	40 - 150
2371586	Diuron	78.3	83.0	P/P	40 - 150
2371586	Fenuron	100	110	P/P	40 - 150
2371586	Fluridone	88.1	98.8	P/P	40 - 150
2371586	Hydrocodone	93.3	96.1	P/P	40 - 150
2371586	Ibuprofen	84.1	71.9	P/P	40 - 150
2371586	Imazapyr	81.2	88.9	P/P	40 - 150
2371586	Imidacloprid	122	130	P/P	40 - 150
2371586	Linuron	71.9	75.2	P/P	40 - 150
2371586	Mandestrobin	88.2	88.4	P/P	40 - 150
2371586	MCPP	94.1	94.3	P/P	40 - 150
2371586	Naproxen	82.6	78.0	P/P	40 - 150
2371586	Primidone	85.2	93.9	P/P	40 - 150
2371586	Pyraclostrobin	86.3	92.2	P/P	40 - 150
2371586	Silvex	86.7	92.6	P/P	40 - 150
2371586	Thiamethoxam	103	109	P/P	40 - 150
2371586	Tolfenpyrad	52.8	57.7	P/P	30 - 150
2371586	Triclopyr	83.2	84.1	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P423197

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372019	Fluoride	99.6	99.0	P/P	94 - 104

Reference Method: SM 5310 B-2011
Batch ID: P423261

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372162	Organic Carbon	97.6	97.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P422995

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372052	Color (true)	3.85	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P423008

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372159	Turbidity	4.16	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P423011

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372033	Calcium	0.838	Spike	P	0 - 20
2372033	Iron	1.03	Spike	P	0 - 20
2372033	Magnesium	1.25	Spike	P	0 - 20
2372033	Potassium	0.573	Spike	P	0 - 20
2372033	Sodium	0.561	Spike	P	0 - 20
2372033	Strontium	1.96	Spike	P	0 - 20
2372033	Tin	2.26	Spike	P	0 - 20
2372033	Titanium	1.63	Spike	P	0 - 20
2372033	Vanadium	1.92	Spike	P	0 - 20
2372033	Zinc	1.48	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P423011

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372033	Aluminum	0.772	Spike	P	0 - 20
2372033	Antimony	0.0796	Spike	P	0 - 20
2372033	Arsenic	1.28	Spike	P	0 - 20
2372033	Barium	0.916	Spike	P	0 - 20
2372033	Beryllium	0.154	Spike	P	0 - 20
2372033	Boron	2.56	Spike	P	0 - 20
2372033	Cadmium	2.36	Spike	P	0 - 20
2372033	Chromium	0.663	Spike	P	0 - 20
2372033	Cobalt	1.37	Spike	P	0 - 20
2372033	Copper	1.81	Spike	P	0 - 20
2372033	Lead	1.03	Spike	P	0 - 20
2372033	Manganese	0.890	Spike	P	0 - 20
2372033	Molybdenum	0.0934	Spike	P	0 - 20
2372033	Nickel	0.396	Spike	P	0 - 20
2372033	Selenium	2.72	Spike	P	0 - 20
2372033	Silver	0.00938	Spike	P	0 - 20
2372033	Thallium	0.855	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P423343

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372194	Chloride	0.347	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P423345

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372194	Sulfate	0.544	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P423376

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372138	Ammonia-N	1.44	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P423101

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372094	Kjeldahl Nitrogen	0.0381	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P423142

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372094	NO2NO3-N	0.482	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P423031

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372065	Total-P	1.66	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P423066

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372138	Total-P	2.03	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P422875

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371390	Acesulfame K	5.22	Spike	P	0 - 30
2371390	AMPA	4.31	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P422875

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371390	Endothall	8.58	Spike	P	0 - 30
2371390	Glufosinate	1.20	Spike	P	0 - 30
2371390	Glyphosate	1.99	Spike	P	0 - 30
2371390	Sucralose	1.19	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P422936

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2371586	2,4-D	1.95	Spike	P	0 - 30
2371586	2,4,5-T	2.81	Spike	P	0 - 30
2371586	Acetaminophen	9.79	Spike	P	0 - 30
2371586	Acetamiprid	0.400	Spike	P	0 - 30
2371586	Afidopyropen	1.82	Spike	P	0 - 30
2371586	Bentazon	6.41	Spike	P	0 - 30
2371586	Benzovindiflupyr	14.7	Spike	P	0 - 30
2371586	Carbamazepine	12.3	Spike	P	0 - 30
2371586	Clothianidin	5.16	Spike	P	0 - 30
2371586	Dinotefuran	7.02	Spike	P	0 - 30
2371586	Diuron	5.76	Spike	P	0 - 30
2371586	Fenuron	9.40	Spike	P	0 - 30
2371586	Fluridone	11.4	Spike	P	0 - 30
2371586	Hydrocodone	2.97	Spike	P	0 - 30
2371586	Ibuprofen	15.6	Spike	P	0 - 30
2371586	Imazapyr	9.05	Spike	P	0 - 30
2371586	Imidacloprid	6.47	Spike	P	0 - 30
2371586	Linuron	4.53	Spike	P	0 - 30
2371586	Mandestrobin	0.190	Spike	P	0 - 30
2371586	MCP	0.176	Spike	P	0 - 30
2371586	Naproxen	5.66	Spike	P	0 - 30
2371586	Primidone	9.76	Spike	P	0 - 30
2371586	Pyraclostrobin	6.59	Spike	P	0 - 30
2371586	Silvex	6.61	Spike	P	0 - 30
2371586	Thiamethoxam	5.56	Spike	P	0 - 30
2371586	Tolfenpyrad	8.85	Spike	P	0 - 30
2371586	Triclopyr	1.11	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P423195

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372019	Total Alkalinity	2.66	Sample	P	0 - 3.8

Reference Method: SM 4500-F- C-2011
Batch ID: P423197

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372019	Fluoride	0.514	Spike	P	0 - 1.6

Quality Assurance Report

Precision

Reference Method: SM 5310 B-2011
Batch ID: P423261

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372162	Organic Carbon	0.143	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2372133

Field Sample ID: G4SD0107

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	130	P	30 - 160
EPA 8321B	Acetaminophen-d4	118	P	30 - 160
EPA 8321B	Carbamazepine-d10	87.1	P	30 - 160
EPA 8321B	Diuron-d6	68.7	P	30 - 160
EPA 8321B	Endothall-d6	63.6	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	106	P	30 - 160
EPA 8321B	Ibuprofen-d3	92.4	P	30 - 160
EPA 8321B	Primidone-d5	121	P	30 - 160
EPA 8321B	Sucralose-d6	128	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A116210

Included Lab Sample IDs: 2372124, 2372126

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	104	104	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A116214

Included Lab Sample IDs: 2372124, 2372126

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

Reference Method: EPA 8321B

Run ID: A116218

Included Lab Sample IDs: 2372133

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	116	121	P/P	60 - 160
Sucralose	91.6	86.4	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A116223

Included Lab Sample IDs: 2372133

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	98.1	89.3	P/P	60 - 160
Endothall	64.9	67.7	P/P	60 - 160
Glufosinate	75.8	78.3	P/P	60 - 160
Glyphosate	111	107	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A116252

Included Lab Sample IDs: 2372133

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	98.8	101	P/P	50 - 150
2,4,5-T	106	113	P/P	50 - 150
Acetaminophen	93.8	99.0	P/P	60 - 160
Acetamiprid	104	104	P/P	50 - 150
Afidopyropen	104	106	P/P	50 - 150
Bentazon	105	96.2	P/P	50 - 160
Benzovindiflupyr	102	106	P/P	50 - 150
Carbamazepine	105	112	P/P	60 - 150
Clothianidin	112	100	P/P	60 - 150
Dinotefuran	90.5	104	P/P	50 - 150
Diuron	106	109	P/P	60 - 160
Fenuron	105	104	P/P	60 - 150
Fluridone	108	109	P/P	60 - 160
Hydrocodone	89.3	98.7	P/P	60 - 150
Ibuprofen	56.7	129	P/P	50 - 160
Imazapyr	83.7	97.0	P/P	50 - 150
Imidacloprid	98.3	104	P/P	60 - 150
Linuron	106	103	P/P	60 - 150
Mandestrobin	108	106	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A116252
Included Lab Sample IDs: 2372133

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
MCP	99.0	91.6	P/P	50 - 150
Naproxen	100	70.9	P/P	50 - 160
Primidone	99.7	101	P/P	60 - 150
Pyraclostrobin	107	108	P/P	60 - 150
Silvex	92.7	93.4	P/P	50 - 150
Thiamethoxam	105	104	P/P	50 - 150
Tolfenpyrad	101	99.0	P/P	60 - 150
Triclopyr	100	116	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A116255
Included Lab Sample IDs: 2372125

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.8	99.7	P/P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A116270
Included Lab Sample IDs: 2372134

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	104	103	P/P	90 - 110
Iron	103	103	P/P	90 - 110
Magnesium	102	102	P/P	90 - 110
Potassium	102	101	P/P	90 - 110
Sodium	104	103	P/P	90 - 110
Strontium	101	102	P/P	90 - 110
Tin	102	103	P/P	90 - 110
Titanium	99.8	102	P/P	90 - 110
Vanadium	97.4	99.2	P/P	90 - 110
Zinc	99.0	99.0	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A116272
Included Lab Sample IDs: 2372124, 2372126

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	99.2	102	P/P	90 - 110
Sulfate	99.4	103	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A116275
Included Lab Sample IDs: 2372127

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	99.1	100	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A116276

Included Lab Sample IDs: 2372125, 2372127

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

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A116289

Included Lab Sample IDs: 2372125, 2372127

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

Reference Method: SM 2320 B-2011

Run ID: A116298

Included Lab Sample IDs: 2372124, 2372126

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	95.0	99.0	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A116298

Included Lab Sample IDs: 2372124, 2372126

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

Reference Method: SM 5310 B-2011

Run ID: A116322

Included Lab Sample IDs: 2372125, 2372127

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	97.2	98.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A116358

Included Lab Sample IDs: 2372125, 2372127

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.8	97.7	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A116379

Included Lab Sample IDs: 2372134

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	102	P/P	90 - 110
Antimony	107	107	P/P	90 - 110
Arsenic	102	103	P/P	90 - 110
Barium	105	105	P/P	90 - 110
Beryllium	103	102	P/P	90 - 110
Boron	99.5	99.2	P/P	90 - 110
Cadmium	106	105	P/P	90 - 110
Chromium	101	101	P/P	90 - 110
Cobalt	94.5	94.7	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A116379

Included Lab Sample IDs: 2372134

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Copper	97.3	98.2	P/P	90 - 110
Lead	94.2	93.8	P/P	90 - 110
Manganese	103	103	P/P	90 - 110
Molybdenum	101	101	P/P	90 - 110
Nickel	96.9	98.0	P/P	90 - 110
Selenium	109	106	P/P	90 - 110
Silver	100	99.9	P/P	90 - 110
Thallium	99.8	99.8	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)	100					3.85	
EPA 180.1 Rev. 2.0	Turbidity	100					4.16	
EPA 200.7 Rev. 4.4	Calcium	107	104					0.838
	Iron	108	107	106	106			1.03
	Magnesium	104	103	102				1.25
	Potassium	107	110	109	102			0.573
	Sodium	105	105	106				0.561
	Strontium	104	99.8	102	100			1.96
	Tin	104	104	106	103			2.26
	Titanium	105	104	106	102			1.63
	Vanadium	102	103	105	103			1.92
	Zinc	101	98.9	100	96.9			1.48
EPA 200.8 Rev. 5.4	Aluminum	102	101	100	99.3			0.772
	Antimony	104	107	107	108			0.0796
	Arsenic	102	103	102	101			1.28
	Barium	104	105	104	105			0.916
	Beryllium	99.1	98.7	98.5	97.6			0.154
	Boron	100	99.7	97.0	97.7			2.56
	Cadmium	103	108	105	105			2.36
	Chromium	99.3	102	102	102			0.663
	Cobalt	97.0	96.7	95.4	94.4			1.37
	Copper	99.0	96.5	94.8	93.4			1.81
	Lead	92.8	93.7	92.8	93.4			1.03
	Manganese	100	102	103	104			0.890
	Molybdenum	99.2	104	104	103			0.0934
	Nickel	101	99.4	99.0	98.0			0.396
	Selenium	106	106	103	104			2.72
	Silver	99.9	99.4	99.4	99.9			0.0093
	Thallium	99.5	102	102	101			0.855
EPA 300.0 Rev. 2.1	Chloride	98.6	99.7	99.9			0.347	
	Sulfate	98.1	97.2	98.9			0.544	
EPA 350.1 Rev. 2.0	Ammonia-N	95.0	97.0	98.6				1.44
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	102	102				0.0381
EPA 353.2 Rev. 2.0	NO2NO3-N	102	104	104				0.482
EPA 365.1 Rev. 2.0	Total-P	106	108	106				1.66
	Total-P	107	104	106				2.03
EPA 8321B	2,4-D	89.2	83.6	82.0				1.95
	2,4,5-T	84.0	83.8	81.4				2.81
	Acesulfame K	108	59.4	56.4				5.22
	Acetaminophen	81.3	83.4	92.0				9.79
	Acetamiprid	83.5	77.0	76.7				0.400
	Afidopyropen	67.9	59.8	60.9				1.82
	AMPA	90.0	81.4	76.5				4.31
	Bentazon	91.8	97.0	103				6.41
	Benzovindiflupyr	81.1	79.9	92.6				14.7
	Carbamazepine	92.4	91.5	103				12.3
	Clothianidin	97.5	99.9	105				5.16
	Dinotefuran	84.4	90.9	97.6				7.02
	Diuron	81.0	78.3	83.0				5.76
	Endothall	85.5	62.1	67.7				8.58
	Fenuron	106	100	110				9.40
	Fluridone	99.3	88.1	98.8				11.4
	Glufosinate	80.1	76.2	77.2				1.20
	Glyphosate	100	95.7	98.0				1.99

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Hydrocodone	98.2	93.3	96.1		2.97
	Ibuprofen	95.6	71.9	84.1		15.6
	Imazapyr	83.1	81.2	88.9		9.05
	Imidacloprid	101	122	130		6.47
	Linuron	78.0	71.9	75.2		4.53
	Mandestrobin	90.7	88.2	88.4		0.190
	MCP	90.4	94.1	94.3		0.176
	Naproxen	92.0	78.0	82.6		5.66
	Primidone	90.8	85.2	93.9		9.76
	Pyraclostrobin	85.0	86.3	92.2		6.59
	Silvex	84.4	92.6	86.7		6.61
	Sucralose	97.3	88.7	89.9		1.19
	Thiamethoxam	92.3	103	109		5.56
	Tolfenpyrad	45.7	52.8	57.7		8.85
	Triclopyr	88.0	83.2	84.1		1.11
SM 2320 B-2011	Total Alkalinity	97.9			2.66	
SM 2540 C-2015	TDS	92.4				
SM 2540 D-2015	TSS	91.5				
SM 4500-F- C-2011	Fluoride	100	99.6	99.0		0.514
SM 5310 B-2011	Organic Carbon	94.0	97.6	97.9		0.143

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2372124, 2372126
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2372124, 2372126
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2372134
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2372134
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2372124, 2372126
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2372124, 2372126
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2372125, 2372127
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2372125, 2372127
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2372125, 2372127
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2372125, 2372127
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2372133
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2372124, 2372126
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2372134
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2372124, 2372126
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2372124, 2372126
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2372124, 2372126
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2372125, 2372127

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	12/01/2022			12/01/2022 14:44	Chandler E Cox	2372124, 2372126
EPA 180.1 Rev. 2.0	12/01/2022			12/01/2022 13:14	Khloe J Berg	2372124
	12/01/2022			12/01/2022 13:16	Khloe J Berg	2372126
EPA 200.7 Rev. 4.4	12/01/2022	12/02/2022 09:45	Megan Whitefoot	12/05/2022 21:38	McKinley C Carter	2372134
EPA 200.8 Rev. 5.4	12/01/2022	12/02/2022 09:45	Megan Whitefoot	12/09/2022 21:47	Emily M Philpot	2372134
EPA 300.0 Rev. 2.1	12/01/2022			12/08/2022 17:47	Anna M. Plaviak	2372124
	12/01/2022			12/08/2022 18:02	Anna M. Plaviak	2372126
EPA 350.1 Rev. 2.0	12/01/2022			12/09/2022 12:10	Ping Hua	2372125
	12/01/2022			12/09/2022 12:11	Ping Hua	2372127
EPA 351.2 Rev. 2.0	12/01/2022	12/05/2022 13:31	Judith K. Clark	12/06/2022 14:24	Samantha L Bates	2372125
	12/01/2022	12/05/2022 13:31	Judith K. Clark	12/06/2022 14:26	Samantha L Bates	2372127
EPA 353.2 Rev. 2.0	12/01/2022			12/06/2022 09:48	Beverly Y. Sanders	2372125
	12/01/2022			12/06/2022 09:49	Beverly Y. Sanders	2372127
EPA 365.1 Rev. 2.0	12/01/2022	12/02/2022 09:51	Adam P Silver	12/05/2022 11:03	James L Waggeberby	2372125
	12/01/2022	12/05/2022 14:16	Adam P Silver	12/06/2022 09:20	James L Waggeberby	2372127
EPA 8321B	12/01/2022	12/01/2022 11:00	Manjita Shrestha	12/01/2022 15:13	Manjita Shrestha	2372133
	12/01/2022	12/01/2022 11:00	Manjita Shrestha	12/01/2022 22:54	Manjita Shrestha	2372133
	12/01/2022	12/02/2022 09:30	June Rhew	12/02/2022 23:47	Juyoung Kim	2372133
SM 2320 B-2011	12/01/2022			12/06/2022 04:03	Dale L. Simmons	2372124
	12/01/2022			12/06/2022 04:15	Dale L. Simmons	2372126
SM 2340 B-2011	12/01/2022			12/05/2022 21:38	McKinley C Carter	2372134
SM 2540 C-2015	12/01/2022			12/05/2022 16:21	Yijie Li	2372124, 2372126
SM 2540 D-2015	12/01/2022			12/05/2022 16:21	Yijie Li	2372124, 2372126
SM 4500-F- C-2011	12/01/2022			12/06/2022 04:03	Dale L. Simmons	2372124
	12/01/2022			12/06/2022 04:15	Dale L. Simmons	2372126
SM 5310 B-2011	12/01/2022			12/07/2022 19:20	Elise M. Gillis	2372125
	12/01/2022			12/07/2022 19:34	Elise M. Gillis	2372127