

Chemical Analysis Report

NE-DIST-2023-06-20-01

Florida DEP Laboratory
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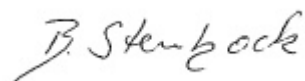
Event Description: **Pellicer Creek 2023**
Request ID: **RQ-2023-06-19-13**
Customer: **NE-DIST**
Project ID: **SMP**

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Certified by: Dr. rer. nat. Bettina Steinbock, Environmental Administrator

Date Certified: 07-JUL-2023 13:29



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: SCHOOLHOUSE BRANCH AT RR TRACKS

Collection Date/Time: 06/19/2023 10:00

Field ID: G5NE0599

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2418392	DEP SOP: NU-094-1	Color (true)	110		PCU	P431507	
	EPA 180.1 Rev. 2.0	Turbidity	4.1		NTU	P431510	
	EPA 300.0 Rev. 2.1	Chloride	19		mg Cl/L	P431829	
		Sulfate	8.5		mg SO4/L	P431832	
	SM 2320 B-2011	Total Alkalinity	80		mg CaCO3/L	P431770	
	SM 2540 C-2015	TDS	161		mg/L	P431842	
	SM 2540 D-2015	TSS	4	I	mg/L	P431776	
	SM 4500-F- C-2011	Fluoride	0.054	I	mg F/L	P431773	MS
2418394	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P431818	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.33		mg N/L	P431651	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.013		mg N/L	P431812	
	EPA 365.1 Rev. 2.0	Total-P	0.084		mg P/L	P431597	
	SM 5310 B-2011	Organic Carbon	10		mg C/L	P431708	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high 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.

**Sample Location: PRINGLE BRANCH AT SJRWMD EASEMENT
300M ABV DAVE BRANCH**

Collection Date/Time: 06/19/2023 10:45

Field ID: G5NE0611

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2418411	EPA 8321B	2,4-D	0.0020	U	ug/L	P431550	MS
		Acesulfame K	0.10	U	ug/L	P431641	
		2,4,5-T	0.0040	U	ug/L	P431550	
		AMPA	0.10	U	ug/L	P431641	
		Acetaminophen	0.0080	U	ug/L	P431550	
		Acetamiprid	0.0020	U	ug/L	P431550	
		Endothall	0.25	U	ug/L	P431641	
		Glufosinate	0.10	U	ug/L	P431641	
		Glyphosate	0.10	U	ug/L	P431641	
		Afidopyropen	0.0020	U	ug/L	P431550	
		Bentazon	8.0E-04	U	ug/L	P431550	
		Sucralose	0.010	U	ug/L	P431641	
		Benzovindiflupyr	0.0020	U	ug/L	P431550	
		Carbamazepine	8.0E-04	U	ug/L	P431550	
		Clothianidin	0.0020	U	ug/L	P431550	
		Dinotefuran	0.0020	U	ug/L	P431550	
		Diuron	0.0020	U	ug/L	P431550	
		Fenuron	0.032	U	ug/L	P431550	
		Fluridone	8.0E-04	U	ug/L	P431550	
		Imazapyr	0.13		ug/L	P431550	
		Hydrocodone	0.0020	U	ug/L	P431550	
		Ibuprofen	0.080	U	ug/L	P431550	
		Imidacloprid	0.0020	U	ug/L	P431550	
		Linuron	0.0040	U	ug/L	P431550	
		Mandestrobin	0.0020	U	ug/L	P431550	
		MCPP	0.0020	U	ug/L	P431550	
		Naproxen	0.0080	U	ug/L	P431550	
		Primidone	0.0040	U	ug/L	P431550	
		Pyraclostrobin	0.0020	U	ug/L	P431550	
		Silvex	0.0040	U	ug/L	P431550	
		Thiamethoxam	0.0020	U	ug/L	P431550	
		Tolfenpyrad	0.0020	U	ug/L	P431550	
		Triclopyr	0.0040	U	ug/L	P431550	
2418416	EPA 200.7 Rev. 4.4	Calcium	14.2		mg/L	P431578	
		Iron	1.27E+03		ug/L	P431578	
		Magnesium	1.63		mg/L	P431578	
		Potassium	0.30	U	mg/L	P431578	
		Sodium	12.2		mg/L	P431578	
		Strontium	77.3		ug/L	P431578	
		Tin	3.7	I	ug/L	P431578	
		Titanium	2.6	I	ug/L	P431578	
		Vanadium	2.0	U	ug/L	P431578	
		Zinc	5.0	U	ug/L	P431578	

Field ID: G5NE0611

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2418416	EPA 200.8 Rev. 5.4	Aluminum	508		ug/L	P431578	
		Antimony	0.050	U	ug/L	P431578	
		Arsenic	0.45		ug/L	P431578	
		Barium	14.0		ug/L	P431578	
		Beryllium	0.048		ug/L	P431578	
		Boron	21.7		ug/L	P431578	
		Cadmium	0.020	U	ug/L	P431578	
		Chromium	0.85	I	ug/L	P431578	
		Cobalt	0.170		ug/L	P431578	
		Copper	0.40	U	ug/L	P431578	
		Lead	0.22	I	ug/L	P431578	
		Manganese	5.98		ug/L	P431578	
		Molybdenum	0.15	U	ug/L	P431578	
		Nickel	0.50	U	ug/L	P431578	
		Selenium	0.20	U	ug/L	P431578	
		Silver	0.010	U	ug/L	P431578	
		Thallium	0.10	U	ug/L	P431578	
	SM 2340 B-2011	Hardness	42.2		mg/L	P431578	

Ref. Method and Comment:
EPA 8321B: MS accuracy for some analytes could not be assessed due to high concentration of parameter in the spiked sample.

Sample Location: UNNAMED DRAIN AT EAGLES NEST RD

Collection Date/Time: 06/19/2023 11:40

Field ID: 27010079

Matrix: W-SURF-SLT

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2418393	DEP SOP: NU-094-1	Color (true)	130		PCU	P431507	
	EPA 180.1 Rev. 2.0	Turbidity	7.9		NTU	P431510	
	EPA 300.0 Rev. 2.1	Chloride	2.0E+03		mg Cl/L	P431829	
		Sulfate	250		mg SO4/L	P431832	
	SM 2320 B-2011	Total Alkalinity	111		mg CaCO3/L	P431770	
	SM 2540 C-2015	TDS	3.64E+03		mg/L	P431842	
	SM 2540 D-2015	TSS	12		mg/L	P431776	
	SM 4500-F- C-2011	Fluoride	0.21		mg F/L	P431773	MS
2418395	EPA 350.1 Rev. 2.0	Ammonia-N	0.005	I	mg N/L	P431661	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.91		mg N/L	P431648	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.019		mg N/L	P431754	
	EPA 365.1 Rev. 2.0	Total-P	0.12		mg P/L	P431632	
	SM 5310 B-2011	Organic Carbon	18		mg C/L	P431708	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch matrix spike recoveries for one of two spiked samples are unavailable because of high analyte concentration in the QC sample.

SM 2540 C-2015: The reported result is consistent with the conductivity measured in the laboratory, 6650 umhos/cm.

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: P431507

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P431510

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P431578

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: P431578

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: P431829

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: P431832

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P431661

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P431818

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431648

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431651

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431754

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431812

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P431597

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P431632

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P431550

Component	Result	Code	Units
2,4-D	0.0020	U	ug/L
2,4,5-T	0.0040	U	ug/L
Acetaminophen	0.0080	U	ug/L
Acetamiprid	0.0020	U	ug/L
Afidopyropen	0.0020	U	ug/L
Bentazon	8.0E-04	U	ug/L
Benzovindiflupyr	0.0020	U	ug/L
Carbamazepine	8.0E-04	U	ug/L
Clothianidin	0.0020	U	ug/L
Dinotefuran	0.0020	U	ug/L
Diuron	0.0020	U	ug/L
Fenuron	0.032	U	ug/L
Fluridone	8.0E-04	U	ug/L
Hydrocodone	0.0020	U	ug/L
Ibuprofen	0.080	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0020	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: EPA 8321B

Batch ID: P431641

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: SM 2320 B-2011

Batch ID: P431770

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

Reference Method: SM 2540 C-2015

Batch ID: P431842

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2015
Batch ID: P431776

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P431773

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P431708

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: P431507

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: P431510

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Turbidity	99.3		P	90 - 110

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P431578

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	100		P	85 - 115
Iron	104		P	85 - 115
Magnesium	104		P	85 - 115
Potassium	99.5		P	85 - 115
Sodium	99.0		P	85 - 115
Strontium	97.8		P	85 - 115
Tin	99.7		P	85 - 115
Titanium	99.6		P	85 - 115
Vanadium	98.9		P	85 - 115
Zinc	98.8		P	85 - 115

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P431578

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	104		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	101		P	85 - 115
Barium	104		P	85 - 115
Beryllium	99.5		P	85 - 115
Boron	107		P	85 - 115
Cadmium	101		P	85 - 115
Chromium	99.9		P	85 - 115
Cobalt	99.3		P	85 - 115
Copper	99.1		P	85 - 115
Lead	94.4		P	85 - 115
Manganese	98.9		P	85 - 115
Molybdenum	99.4		P	85 - 115
Nickel	99.6		P	85 - 115
Selenium	103		P	85 - 115
Silver	103		P	85 - 115
Thallium	102		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P431829

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P431832

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P431661

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	96.4		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P431818

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431648

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431651

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431754

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	107		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431812

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: P431597

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P431632

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P431550

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	105		P	40 - 150
2,4,5-T	86.1		P	40 - 150
Acetaminophen	95.0		P	30 - 150
Acetamiprid	84.4		P	40 - 150
Afidopyropen	64.2		P	30 - 150
Bentazon	114		P	30 - 150
Benzovindiflupyr	93.4		P	40 - 150
Carbamazepine	77.8		P	40 - 150
Clothianidin	97.9		P	40 - 150
Dinotefuran	102		P	40 - 150
Diuron	82.4		P	40 - 150
Fenuron	95.0		P	40 - 150
Fluridone	94.0		P	40 - 150
Hydrocodone	86.9		P	40 - 150
Ibuprofen	82.3		P	40 - 150
Imazapyr	95.4		P	40 - 150
Imidacloprid	74.0		P	40 - 150
Linuron	82.7		P	40 - 150
Mandestrobin	98.7		P	40 - 150
MCPP	101		P	40 - 150
Naproxen	68.7		P	40 - 150
Primidone	75.6		P	40 - 150
Pyraclostrobin	88.1		P	40 - 150
Silvex	78.9		P	40 - 150
Thiamethoxam	78.7		P	40 - 150
Tolfenpyrad	53.0		P	30 - 150
Triclopyr	93.6		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P431641

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	79.4		P	40 - 150
AMPA	95.6		P	40 - 150
Endothall	97.5		P	40 - 150
Glufosinate	100		P	40 - 150
Glyphosate	95.9		P	40 - 150
Sucralose	112		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P431770

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	95.1		P	92 - 105

Reference Method: SM 2540 C-2015

Batch ID: P431842

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2540 D-2015
Batch ID: P431776

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	91.2		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P431773

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	105		P	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P431708

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

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P431578

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418286	Calcium	102		P	80 - 120
2418286	Iron	103	106	P/P	80 - 120
2418286	Magnesium	102	106	P/P	80 - 120
2418286	Potassium	98.6	103	P/P	80 - 120
2418286	Sodium	99.4	103	P/P	80 - 120
2418286	Strontium	98.2	101	P/P	80 - 120
2418286	Tin	93.1	104	P/P	80 - 120
2418286	Titanium	83.7	82.2	P/P	80 - 120
2418286	Vanadium	96.0	106	P/P	80 - 120
2418286	Zinc	95.5	104	P/P	80 - 120
2418356	Calcium	97.9		P	80 - 120
2418356	Iron	104		P	80 - 120
2418356	Magnesium	101		P	80 - 120
2418356	Potassium	97.5		P	80 - 120
2418356	Sodium	94.3		P	80 - 120
2418356	Strontium	99.3		P	80 - 120
2418356	Tin	99.7		P	80 - 120
2418356	Titanium	101		P	80 - 120
2418356	Vanadium	101		P	80 - 120
2418356	Zinc	99.4		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P431578

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418286	Aluminum	104	106	P/P	80 - 120
2418286	Antimony	99.6	100	P/P	80 - 120
2418286	Arsenic	98.6	99.1	P/P	80 - 120
2418286	Barium	105	106	P/P	80 - 120
2418286	Beryllium	97.6	99.1	P/P	80 - 120
2418286	Boron	105	107	P/P	80 - 120
2418286	Cadmium	100	102	P/P	80 - 120
2418286	Chromium	97.2	100	P/P	80 - 120
2418286	Cobalt	96.7	98.7	P/P	80 - 120
2418286	Copper	97.0	97.4	P/P	80 - 120
2418286	Lead	93.4	95.1	P/P	80 - 120
2418286	Manganese	105	110	P/P	80 - 120
2418286	Molybdenum	98.2	99.0	P/P	80 - 120
2418286	Nickel	98.7	99.3	P/P	80 - 120
2418286	Selenium	98.2	97.5	P/P	80 - 120
2418286	Silver	101	102	P/P	80 - 120
2418286	Thallium	104	106	P/P	80 - 120
2418356	Aluminum	100		P	80 - 120
2418356	Antimony	103		P	80 - 120
2418356	Arsenic	102		P	80 - 120
2418356	Barium	103		P	80 - 120
2418356	Beryllium	100		P	80 - 120
2418356	Boron	104		P	80 - 120
2418356	Cadmium	100		P	80 - 120
2418356	Chromium	97.4		P	80 - 120
2418356	Cobalt	96.1		P	80 - 120
2418356	Copper	97.0		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P431578

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418356	Lead	95.0		P	80 - 120
2418356	Manganese	97.3		P	80 - 120
2418356	Molybdenum	99.9		P	80 - 120
2418356	Nickel	96.2		P	80 - 120
2418356	Selenium	98.7		P	80 - 120
2418356	Silver	102		P	80 - 120
2418356	Thallium	105		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P431829

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418455	Chloride	106		P	90 - 110
2418708	Chloride	105		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P431832

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418455	Sulfate	101		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P431661

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2417472	Ammonia-N	103	99.2	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P431818

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418366	Ammonia-N	97.2	98.4	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431648

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2417572	Kjeldahl Nitrogen	106	104	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431651

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418394	Kjeldahl Nitrogen	110	107	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431754

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2417762	NO2NO3-N	105	105	P/P	90 - 110

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 353.2 Rev. 2.0

Batch ID: P431812

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418364	NO2NO3-N	104	104	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P431597

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418366	Total-P	100	98.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Batch ID: P431632

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418395	Total-P	102	103	P/P	90 - 110

Reference Method: EPA 8321B

Batch ID: P431550

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418216	2,4,5-T	100	101	P/P	40 - 150
2418216	Acetaminophen	93.1	85.4	P/P	30 - 150
2418216	Acetamiprid	72.7	72.9	P/P	40 - 150
2418216	Afidopyropen	51.3	64.4	P/P	30 - 150
2418216	Benzovindiflupyr	89.4	97.9	P/P	40 - 150
2418216	Carbamazepine	65.7	68.5	P/P	40 - 150
2418216	Clothianidin	98.8	89.3	P/P	40 - 150
2418216	Dinotefuran	75.0	82.9	P/P	40 - 150
2418216	Diuron	54.1	37.6	P/F	40 - 150
2418216	Fenuron	75.3	77.8	P/P	40 - 150
2418216	Fluridone	86.7	96.4	P/P	40 - 150
2418216	Hydrocodone	63.6	62.1	P/P	40 - 150
2418216	Ibuprofen	66.0	58.3	P/P	40 - 150
2418216	Linuron	76.6	71.6	P/P	40 - 150
2418216	Mandestrobin	93.2	97.1	P/P	40 - 150
2418216	MCCP	115	109	P/P	40 - 150
2418216	Naproxen	64.9	86.9	P/P	40 - 150
2418216	Primidone	75.8	82.8	P/P	40 - 150
2418216	Pyraclostrobin	95.6	97.5	P/P	40 - 150
2418216	Silvex	78.9	83.6	P/P	40 - 150
2418216	Thiamethoxam	63.5	68.7	P/P	40 - 150
2418216	Tolfenpyrad	57.0	56.3	P/P	30 - 150
2418216	Triclopyr	101	104	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P431641

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418283	Acesulfame K	92.4	94.6	P/P	40 - 150
2418283	AMPA	81.3	75.7	P/P	40 - 150
2418283	Endothall	117	122	P/P	40 - 150
2418283	Glufosinate	86.7	82.7	P/P	40 - 150
2418283	Glyphosate	96.1	99.6	P/P	40 - 150
2418283	Sucralose	95.7	89.2	P/P	40 - 150

Quality Assurance Report

Matrix Spike Accuracy

Reference Method: SM 4500-F- C-2011
Batch ID: P431773

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418428	Fluoride	105	107	P/F	94 - 106

Reference Method: SM 5310 B-2011
Batch ID: P431708

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2418854	Organic Carbon	93.1	95.0	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P431507

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418343	Color (true)	8.57	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P431510

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418251	Turbidity	0.957	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P431578

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418286	Calcium	2.97	Spike	P	0 - 20
2418286	Iron	2.31	Spike	P	0 - 20
2418286	Magnesium	2.57	Spike	P	0 - 20
2418286	Potassium	2.80	Spike	P	0 - 20
2418286	Sodium	2.28	Spike	P	0 - 20
2418286	Strontium	3.12	Spike	P	0 - 20
2418286	Tin	11.4	Spike	P	0 - 20
2418286	Titanium	1.27	Spike	P	0 - 20
2418286	Vanadium	9.48	Spike	P	0 - 20
2418286	Zinc	8.70	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P431578

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418286	Aluminum	1.11	Spike	P	0 - 20
2418286	Antimony	0.838	Spike	P	0 - 20
2418286	Arsenic	0.539	Spike	P	0 - 20
2418286	Barium	1.01	Spike	P	0 - 20
2418286	Beryllium	1.42	Spike	P	0 - 20
2418286	Boron	1.49	Spike	P	0 - 20
2418286	Cadmium	1.53	Spike	P	0 - 20
2418286	Chromium	3.17	Spike	P	0 - 20
2418286	Cobalt	1.94	Spike	P	0 - 20
2418286	Copper	0.381	Spike	P	0 - 20
2418286	Lead	1.77	Spike	P	0 - 20
2418286	Manganese	1.24	Spike	P	0 - 20
2418286	Molybdenum	0.757	Spike	P	0 - 20
2418286	Nickel	0.584	Spike	P	0 - 20
2418286	Selenium	0.678	Spike	P	0 - 20
2418286	Silver	1.15	Spike	P	0 - 20
2418286	Thallium	2.22	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P431829

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418455	Chloride	5.09	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P431832

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418455	Sulfate	5.19	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P431661

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2417472	Ammonia-N	2.41	Spike	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P431818

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418366	Ammonia-N	1.10	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431648

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2417572	Kjeldahl Nitrogen	1.08	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P431651

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418394	Kjeldahl Nitrogen	2.53	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431754

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2417762	NO2NO3-N	0.477	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P431812

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418364	NO2NO3-N	0.0	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P431597

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418366	Total-P	1.93	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P431632

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418395	Total-P	0.385	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P431550

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418216	2,4-D	0.743	Spike	P	0 - 30
2418216	2,4,5-T	0.391	Spike	P	0 - 30
2418216	Acetaminophen	8.58	Spike	P	0 - 30
2418216	Acetamiprid	0.230	Spike	P	0 - 30
2418216	Afidopyropen	22.6	Spike	P	0 - 30
2418216	Bentazon	1.12	Spike	P	0 - 30
2418216	Benzovindiflupyr	9.04	Spike	P	0 - 30
2418216	Carbamazepine	4.24	Spike	P	0 - 30
2418216	Clothianidin	10.1	Spike	P	0 - 30
2418216	Dinotefuran	10.0	Spike	P	0 - 30
2418216	Diuron	28.5	Spike	P	0 - 30
2418216	Fenuron	3.25	Spike	P	0 - 30
2418216	Fluridone	7.68	Spike	P	0 - 30
2418216	Hydrocodone	2.40	Spike	P	0 - 30
2418216	Ibuprofen	12.4	Spike	P	0 - 30
2418216	Imazapyr	2.11	Spike	P	0 - 30
2418216	Imidacloprid	1.56	Spike	P	0 - 30
2418216	Linuron	6.73	Spike	P	0 - 30
2418216	Mandestrobin	4.08	Spike	P	0 - 30
2418216	MCPP	4.84	Spike	P	0 - 30
2418216	Naproxen	29.0	Spike	P	0 - 30
2418216	Primidone	8.84	Spike	P	0 - 30
2418216	Pyraclostrobin	2.04	Spike	P	0 - 30
2418216	Silvex	5.76	Spike	P	0 - 30
2418216	Thiamethoxam	7.92	Spike	P	0 - 30
2418216	Tolfenpyrad	1.28	Spike	P	0 - 30
2418216	Triclopyr	2.66	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P431641

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418283	Acesulfame K	2.35	Spike	P	0 - 30
2418283	AMPA	7.09	Spike	P	0 - 30
2418283	Endothall	4.22	Spike	P	0 - 30
2418283	Glufosinate	4.79	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B
Batch ID: P431641

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418283	Glyphosate	3.60	Spike	P	0 - 30
2418283	Sucralose	2.90	Spike	P	0 - 30

Reference Method: SM 2320 B-2011
Batch ID: P431770

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418428	Total Alkalinity	1.03	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P431842

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418363	TDS	6.16	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P431773

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418428	Fluoride	0.979	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2011
Batch ID: P431708

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2418854	Organic Carbon	0.966	Spike	P	0 - 20

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

Quality Assurance Report Surrogates

Lab Sample ID: 2418411
Field Sample ID: G5NE0611

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	76.5	P	30 - 160
EPA 8321B	Acetaminophen-d4	90.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	39.5	P	30 - 160
EPA 8321B	Diuron-d6	37.5	P	30 - 160
EPA 8321B	Endothall-d6	129	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	67.2	P	30 - 160
EPA 8321B	Ibuprofen-d3	63.6	P	30 - 160
EPA 8321B	Primidone-d5	75.0	P	30 - 160
EPA 8321B	Sucralose-d6	104	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: 119977

Included Lab Sample IDs: 2418395

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	97.7	97.6	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1

Run ID: A119911

Included Lab Sample IDs: 2418392, 2418393

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.3	101	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A119913

Included Lab Sample IDs: 2418392, 2418393

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

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A119966

Included Lab Sample IDs: 2418394

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A119986

Included Lab Sample IDs: 2418416

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	102	104	P/P	90 - 110
Antimony	99.9	103	P/P	90 - 110
Arsenic	100	103	P/P	90 - 110
Barium	101	105	P/P	90 - 110
Beryllium	100	102	P/P	90 - 110
Boron	99.7	101	P/P	90 - 110
Cadmium	102	103	P/P	90 - 110
Chromium	101	104	P/P	90 - 110
Cobalt	97.9	101	P/P	90 - 110
Copper	97.6	100	P/P	90 - 110
Lead	93.0	95.7	P/P	90 - 110
Manganese	99.3	104	P/P	90 - 110
Molybdenum	99.2	101	P/P	90 - 110
Nickel	98.7	102	P/P	90 - 110
Selenium	99.7	103	P/P	90 - 110
Silver	101	104	P/P	90 - 110
Thallium	102	104	P/P	90 - 110

Reference Method: SM 5310 B-2011

Run ID: A119991

Included Lab Sample IDs: 2418394, 2418395

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

Reference Method: SM 5310 B-2011

Run ID: A119991

Included Lab Sample IDs: 2418394, 2418395

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	96.8	96.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A119992

Included Lab Sample IDs: 2418395

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	95.5	102	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A119997

Included Lab Sample IDs: 2418394

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	96.3	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A120004

Included Lab Sample IDs: 2418395

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	100	101	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A120022

Included Lab Sample IDs: 2418395

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

Reference Method: SM 2320 B-2011

Run ID: A120036

Included Lab Sample IDs: 2418392, 2418393

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.6	94.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A120036

Included Lab Sample IDs: 2418392, 2418393

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

Reference Method: EPA 353.2 Rev. 2.0

Run ID: A120043

Included Lab Sample IDs: 2418394

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A120044
Included Lab Sample IDs: 2418411

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	71.9	92.4	P/P	60 - 160
Sucralose	98.1	97.3	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A120045
Included Lab Sample IDs: 2418394

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	99.3	99.2	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A120048
Included Lab Sample IDs: 2418411

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	90.6	88.6	P/P	60 - 160
Endothall	84.5	85.0	P/P	60 - 160
Glufosinate	86.0	89.4	P/P	60 - 160
Glyphosate	89.0	92.9	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A120051
Included Lab Sample IDs: 2418392, 2418393

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	101	102	P/P	90 - 110
Sulfate	101	103	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A120107
Included Lab Sample IDs: 2418411

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	89.3	77.1	P/P	50 - 150
2,4,5-T	87.7	86.2	P/P	50 - 150
Acetaminophen	107	92.9	P/P	60 - 160
Acetamiprid	120	115	P/P	50 - 150
Afidopyropen	92.8	95.0	P/P	50 - 150
Bentazon	131	149	P/P	50 - 160
Benzovindiflupyr	121	124	P/P	50 - 150
Carbamazepine	119	117	P/P	60 - 150
Clothianidin	122	112	P/P	60 - 150
Dinotefuran	106	101	P/P	50 - 150
Diuron	123	119	P/P	60 - 160
Fenuron	120	117	P/P	60 - 150
Fluridone	116	115	P/P	60 - 160
Hydrocodone	109	108	P/P	60 - 150
Ibuprofen	78.5	94.6	P/P	50 - 160
Imazapyr	111	108	P/P	50 - 150
Imidacloprid	83.4	74.7	P/P	60 - 150
Linuron	118	143	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A120107
Included Lab Sample IDs: 2418411

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Mandestrobin	120	117	P/P	50 - 150
MCPD	79.1	80.0	P/P	50 - 150
Naproxen	73.7	99.1	P/P	50 - 160
Primidone	92.4	96.6	P/P	60 - 150
Pyraclostrobin	125	125	P/P	60 - 150
Silvex	80.1	63.8	P/P	50 - 150
Thiamethoxam	94.2	92.5	P/P	50 - 150
Tolfenpyrad	91.0	107	P/P	60 - 150
Triclopyr	86.8	80.9	P/P	50 - 150

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A120113
Included Lab Sample IDs: 2418416

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	96.9	97.0	P/P	90 - 110
Iron	97.3	98.8	P/P	90 - 110
Magnesium	96.4	98.0	P/P	90 - 110
Potassium	96.5	97.9	P/P	90 - 110
Sodium	93.0	93.0	P/P	90 - 110
Strontium	100	97.8	P/P	90 - 110
Tin	99.8	99.3	P/P	90 - 110
Titanium	100	99.8	P/P	90 - 110
Vanadium	99.5	99.3	P/P	90 - 110
Zinc	100	99.7	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					8.57	
EPA 180.1 Rev. 2.0	Turbidity	99.3					0.957	
EPA 200.7 Rev. 4.4	Calcium	100	102	97.9				2.97
	Iron	104	103	106	104			2.31
	Magnesium	104	102	106	101			2.57
	Potassium	99.5	98.6	103	97.5			2.80
	Sodium	99.0	99.4	103	94.3			2.28
	Strontium	97.8	98.2	101	99.3			3.12
	Tin	99.7	93.1	104	99.7			11.4
	Titanium	99.6	83.7	82.2	101			1.27
	Vanadium	98.9	96.0	106	101			9.48
	Zinc	98.8	95.5	104	99.4			8.70
EPA 200.8 Rev. 5.4	Aluminum	104	104	106	100			1.11
	Antimony	101	99.6	100	103			0.838
	Arsenic	101	98.6	99.1	102			0.539
	Barium	104	105	106	103			1.01
	Beryllium	99.5	97.6	99.1	100			1.42
	Boron	107	105	107	104			1.49
	Cadmium	101	100	102	100			1.53
	Chromium	99.9	97.2	100	97.4			3.17
	Cobalt	99.3	96.7	98.7	96.1			1.94
	Copper	99.1	97.0	97.4	97.0			0.381
	Lead	94.4	93.4	95.1	95.0			1.77
	Manganese	98.9	105	110	97.3			1.24
	Molybdenum	99.4	98.2	99.0	99.9			0.757
	Nickel	99.6	98.7	99.3	96.2			0.584
	Selenium	103	98.2	97.5	98.7			0.678
	Silver	103	101	102	102			1.15
	Thallium	102	104	106	105			2.22
EPA 300.0 Rev. 2.1	Chloride	103	106	105			5.09	
	Sulfate	102	101				5.19	
EPA 350.1 Rev. 2.0	Ammonia-N	96.4	103	99.2				2.41
	Ammonia-N	100	97.2	98.4				1.10
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	104	106	104				1.08
	Kjeldahl Nitrogen	101	110	107				2.53
EPA 353.2 Rev. 2.0	NO2NO3-N	107	105	105				0.477
	NO2NO3-N	104	104	104				0.0
EPA 365.1 Rev. 2.0	Total-P	102	100	98.0				1.93
	Total-P	102	102	103				0.385
EPA 8321B	2,4-D	105						0.743
	2,4,5-T	86.1	100	101				0.391
	Acesulfame K	79.4	92.4	94.6				2.35
	Acetaminophen	95.0	93.1	85.4				8.58
	Acetamiprid	84.4	72.7	72.9				0.230
	Afidopyropen	64.2	51.3	64.4				22.6
	AMPA	95.6	81.3	75.7				7.09
	Bentazon	114						1.12
	Benzovindiflupyr	93.4	89.4	97.9				9.04
	Carbamazepine	77.8	65.7	68.5				4.24
	Clothianidin	97.9	98.8	89.3				10.1
	Dinotefuran	102	75.0	82.9				10.0
	Diuron	82.4	54.1	37.6				28.5
	Endothall	97.5	117	122				4.22
	Fenuron	95.0	75.3	77.8				3.25

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	SMP
EPA 8321B	Fluridone	94.0	86.7	96.4		7.68
	Glufosinate	100	86.7	82.7		4.79
	Glyphosate	95.9	96.1	99.6		3.60
	Hydrocodone	86.9	63.6	62.1		2.40
	Ibuprofen	82.3	66.0	58.3		12.4
	Imazapyr	95.4				2.11
	Imidacloprid	74.0				1.56
	Linuron	82.7	76.6	71.6		6.73
	Mandestrobin	98.7	93.2	97.1		4.08
	MCP	101	115	109		4.84
	Naproxen	68.7	64.9	86.9		29.0
	Primidone	75.6	75.8	82.8		8.84
	Pyraclostrobin	88.1	95.6	97.5		2.04
	Silvex	78.9	78.9	83.6		5.76
	Sucralose	112	95.7	89.2		2.90
	Thiamethoxam	78.7	63.5	68.7		7.92
	Tolfenpyrad	53.0	57.0	56.3		1.28
	Triclopyr	93.6	101	104		2.66
SM 2320 B-2011	Total Alkalinity	95.1				1.03
SM 2540 C-2015	TDS	97.7				6.16
SM 2540 D-2015	TSS	91.2				
SM 4500-F- C-2011	Fluoride	105	105	107		0.979
SM 5310 B-2011	Organic Carbon	95.0	93.1	95.0		0.966

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2418392, 2418393
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2418392, 2418393
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2418416
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2418416
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2418392, 2418393
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2418392, 2418393
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2418394, 2418395
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2418394, 2418395
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2418394, 2418395
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2418394, 2418395
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2418411
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2418392, 2418393
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2418416
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2418392, 2418393
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2418392, 2418393
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2418392, 2418393
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2418394, 2418395

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	06/20/2023			06/20/2023 13:20	Chandler E Cox	2418392, 2418393
EPA 180.1 Rev. 2.0	06/20/2023			06/20/2023 12:45	Alexis Price	2418392
	06/20/2023			06/20/2023 12:46	Alexis Price	2418393
EPA 200.7 Rev. 4.4	06/20/2023	06/21/2023 12:20	George D Taylor	06/29/2023 19:21	Samatha Luckman	2418416
EPA 200.8 Rev. 5.4	06/20/2023	06/21/2023 12:20	George D Taylor	06/22/2023 18:24	Emily M Philpot	2418416
EPA 300.0 Rev. 2.1	06/20/2023			06/26/2023 20:14	James L Waggeberby	2418392
	06/20/2023			06/26/2023 20:29	James L Waggeberby	2418393
EPA 350.1 Rev. 2.0	06/20/2023			06/22/2023 14:01	Ping Hua	2418395
	06/20/2023			06/27/2023 11:31	Khloe J Berg	2418394
EPA 351.2 Rev. 2.0	06/20/2023	06/22/2023 12:16	Dana G. Hughes	06/23/2023 09:43	Ping Hua	2418395
	06/20/2023	06/22/2023 12:16	Dana G. Hughes	06/23/2023 12:29	Ping Hua	2418394
EPA 353.2 Rev. 2.0	06/20/2023			06/26/2023 10:26	Beverly Y. Sanders	2418395
	06/20/2023			06/27/2023 10:20	Beverly Y. Sanders	2418394
EPA 365.1 Rev. 2.0	06/20/2023	06/21/2023 14:57	Adam P Silver	06/22/2023 12:41	Simonne.V. Calhoun	2418394
	06/20/2023	06/22/2023 13:08	Alexis Price	06/23/2023 14:16	James L Waggeberby	2418395
EPA 8321B	06/20/2023	06/22/2023 09:00	Hoor Shaik	06/26/2023 17:39	Juyoung Kim	2418411
	06/20/2023	06/23/2023 16:00	Hana Lee	06/24/2023 02:26	Tae K Lee	2418411
	06/20/2023	06/23/2023 16:00	Hana Lee	06/24/2023 14:42	Tae K Lee	2418411
SM 2320 B-2011	06/20/2023			06/24/2023 03:04	Dale L. Simmons	2418392
	06/20/2023			06/24/2023 05:26	Dale L. Simmons	2418393
SM 2340 B-2011	06/20/2023			06/29/2023 19:21	Samatha Luckman	2418416
SM 2540 C-2015	06/20/2023			06/21/2023 15:02	Yijie Li	2418392, 2418393
SM 2540 D-2015	06/20/2023			06/21/2023 15:02	Yijie Li	2418392, 2418393
SM 4500-F- C-2011	06/20/2023			06/24/2023 03:04	Dale L. Simmons	2418392
	06/20/2023			06/24/2023 05:26	Dale L. Simmons	2418393
SM 5310 B-2011	06/20/2023			06/22/2023 17:43	Khloe J Berg	2418394
	06/20/2023			06/22/2023 17:57	Khloe J Berg	2418395