

Chemical Analysis Report

SO-DIST-2023-03-28-01

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

Event Description: **2023 SMP: Glades Slough**
Request ID: **RQ-2023-03-20-13**
Customer: **SO-DIST**
Project ID: **SMP**

Send Reports to:
FL Dept. of Environmental Protection
FLDEP South District Office
2295 Victoria Ave. Suite 314
Fort Myers, FL 33901-3381
Attn: William Mullen

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

Certified by: Chris Bowen, Environmental Administrator

Date Certified: 13-APR-2023 14:31



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: GATOR SLOUGH AT US27

Collection Date/Time: 03/27/2023 11:00

Field ID: G4SD0214

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2396561	DEP SOP: NU-094-1	Color (true)	470		PCU	P427768	
	EPA 180.1 Rev. 2.0	Turbidity	5.8		NTU	P427773	
	EPA 300.0 Rev. 2.1	Chloride	6.7		mg Cl/L	P427938	
		Sulfate	1.3		mg SO4/L	P427940	
	SM 2320 B-2011	Total Alkalinity	0.65	U	mg CaCO3/L	P427943	
	SM 2540 C-2015	TDS	68		mg/L	P428328	
	SM 2540 D-2015	TSS	9	I	mg/L	P428170	
	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P427950	
2396563	EPA 350.1 Rev. 2.0	Ammonia-N	0.017		mg N/L	P427877	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P427794	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.004	U	mg N/L	P427993	
	EPA 365.1 Rev. 2.0	Total-P	0.22		mg P/L	P427870	
	SM 5310 B-2011	Organic Carbon	37		mg C/L	P427937	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

Sample Location: BOOTHEELCREEKEASTBRANCH

Collection Date/Time: 03/27/2023 11:30

Field ID: G4SD0105

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2396562	DEP SOP: NU-094-1	Color (true)	54		PCU	P427768	
	EPA 180.1 Rev. 2.0	Turbidity	6.4		NTU	P427773	
	EPA 300.0 Rev. 2.1	Chloride	26	A	mg Cl/L	P427938	
		Sulfate	0.31	IA	mg SO4/L	P427940	
	SM 2320 B-2011	Total Alkalinity	47		mg CaCO3/L	P427943	
	SM 2540 C-2015	TDS	137		mg/L	P428328	
	SM 2540 D-2015	TSS	7	I	mg/L	P428170	
	SM 4500-F- C-2011	Fluoride	0.31		mg F/L	P427950	
2396564	EPA 350.1 Rev. 2.0	Ammonia-N	0.043		mg N/L	P427877	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.38		mg N/L	P427794	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.008	I	mg N/L	P427993	
	EPA 365.1 Rev. 2.0	Total-P	0.96		mg P/L	P427870	
	SM 5310 B-2011	Organic Carbon	7.6		mg C/L	P427937	

Ref. Method and Comment:

EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

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

Sample Location: RAINEYSLOUGHATFARABEERD

Collection Date/Time: 03/27/2023 12:10

Field ID: G4SD0111

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2396583	EPA 200.7 Rev. 4.4	Calcium	36.2		mg/L	P427862	
		Iron	1.84E+03		ug/L	P427862	
		Magnesium	6.83		mg/L	P427862	
		Potassium	1.5		mg/L	P427862	
		Sodium	25.6		mg/L	P427862	
		Strontium	340		ug/L	P427862	
		Tin	3.0	U	ug/L	P427862	
		Titanium	1.1	I	ug/L	P427862	
		Vanadium	2.0	U	ug/L	P427862	
		Zinc	5.0	U	ug/L	P427862	
	EPA 200.8 Rev. 5.4	Aluminum	143		ug/L	P427862	
		Antimony	0.055	I	ug/L	P427862	
		Arsenic	1.21		ug/L	P427862	
		Barium	28.5		ug/L	P427862	
		Beryllium	0.030	I	ug/L	P427862	
		Boron	22.7		ug/L	P427862	
		Cadmium	0.020	U	ug/L	P427862	
		Chromium	0.88	I	ug/L	P427862	
		Cobalt	0.334		ug/L	P427862	
		Copper	0.64	I	ug/L	P427862	
		Lead	0.23	I	ug/L	P427862	
		Manganese	22.4		ug/L	P427862	
		Molybdenum	0.42	I	ug/L	P427862	
		Nickel	0.62	I	ug/L	P427862	
		Selenium	0.20	U	ug/L	P427862	
		Silver	0.010	U	ug/L	P427862	
		Thallium	0.10	U	ug/L	P427862	
	SM 2340 B-2011	Hardness	118		mg/L	P427862	

Sample Location: JOHNNENRYSLOUGH ATCR731

Collection Date/Time: 03/27/2023 12:45

Field ID: G4SD0215

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2396565	DEP SOP: NU-094-1	Color (true)	93		PCU	P427768	
	EPA 180.1 Rev. 2.0	Turbidity	2.8		NTU	P427773	
	EPA 300.0 Rev. 2.1	Chloride	240		mg Cl/L	P427938	
		Sulfate	73		mg SO4/L	P427940	
	SM 2320 B-2011	Total Alkalinity	90		mg CaCO3/L	P427943	
	SM 2540 C-2015	TDS	638		mg/L	P428328	
	SM 2540 D-2015	TSS	3	I	mg/L	P428170	
2396566	SM 4500-F- C-2011	Fluoride	0.17		mg F/L	P427950	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.21		mg N/L	P427877	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P427794	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.21		mg N/L	P427993	
	EPA 365.1 Rev. 2.0	Total-P	0.18		mg P/L	P427870	
2396581	SM 5310 B-2011	Organic Carbon	19		mg C/L	P427937	
	EPA 8321B	2,4-D	0.0020	U	ug/L	P427927	
		Acesulfame K	0.10	U	ug/L	P427744	
		2,4,5-T	0.0040	U	ug/L	P427927	
		AMPA	13		ug/L	P427744	
		Acetaminophen	0.0080	U	ug/L	P427927	
		Acetamiprid	0.0020	U	ug/L	P427927	
		Endothall	0.25	U	ug/L	P427744	
		Glufosinate	0.10	U	ug/L	P427744	
		Glyphosate	77		ug/L	P427744	
		Afidopyropen	0.0020	U	ug/L	P427927	
		Bentazon	8.0E-04	U	ug/L	P427927	
		Sucralose	0.010	U	ug/L	P427744	
		Benzovindiflupyr	0.0020	U	ug/L	P427927	
		Carbamazepine	8.0E-04	U	ug/L	P427927	
		Clothianidin	0.0020	U	ug/L	P427927	
		Dinotefuran	0.0020	U	ug/L	P427927	
		Diuron	0.0020	U	ug/L	P427927	
		Fenuron	0.032	U	ug/L	P427927	
		Fluridone	8.0E-04	U	ug/L	P427927	
		Imazapyr	0.0040	U	ug/L	P427927	
		Hydrocodone	0.0020	U	ug/L	P427927	
		Ibuprofen	0.080	U	ug/L	P427927	
		Imidacloprid	0.0020	U	ug/L	P427927	
		Linuron	0.0040	U	ug/L	P427927	
		Mandestrobin	0.0020	U	ug/L	P427927	
		MCPP	0.0020	U	ug/L	P427927	
		Naproxen	0.0080	U	ug/L	P427927	
		Primidone	0.0040	U	ug/L	P427927	
		Pyraclostrobin	0.0020	U	ug/L	P427927	
		Silvex	0.0040	U	ug/L	P427927	
		Thiamethoxam	0.0020	U	ug/L	P427927	

Field ID: G4SD0215

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2396581	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P427927	
		Triclopyr	0.0040	U	ug/L	P427927	

Ref. Method and Comment:
EPA 300.0 Rev. 2.1: Sulfate: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.
SM 2540 D-2015: Batch relative percent difference is unavailable because of low analyte concentration in the QC sample.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P427768

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P427773

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P427862

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: P427862

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: P427938

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: P427940

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427877

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427794

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427993

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427870

Component	Result	Code	Units
Total-P	0.010	U	mg P/L

Reference Method: EPA 8321B
Batch ID: P427744

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: P427927

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: P427927

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

Reference Method: SM 2320 B-2011
Batch ID: P427943

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

Reference Method: SM 2540 C-2015
Batch ID: P428328

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P428170

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P427950

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2011
Batch ID: P427937

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: P427768

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: P427773

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

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P427862

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Calcium	106		P	80 - 120
Iron	108		P	80 - 120
Magnesium	106		P	80 - 120
Potassium	103		P	80 - 120
Sodium	102		P	80 - 120
Strontium	101		P	80 - 120
Tin	103		P	80 - 120
Titanium	103		P	80 - 120
Vanadium	100		P	80 - 120
Zinc	98.0		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P427862

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Aluminum	98.7		P	85 - 115
Antimony	101		P	85 - 115
Arsenic	103		P	85 - 115
Barium	102		P	85 - 115
Beryllium	97.4		P	85 - 115
Boron	96.6		P	85 - 115
Cadmium	99.4		P	85 - 115
Chromium	98.1		P	85 - 115
Cobalt	105		P	85 - 115
Copper	101		P	85 - 115
Lead	93.6		P	85 - 115
Manganese	97.6		P	85 - 115
Molybdenum	101		P	85 - 115
Nickel	102		P	85 - 115
Selenium	101		P	85 - 115
Silver	99.6		P	85 - 115
Thallium	100		P	85 - 115

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427938

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: P427940

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427877

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427794

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427993

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: P427870

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total-P	98.7		P	90 - 110

Reference Method: EPA 8321B
Batch ID: P427744

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	93.9		P	40 - 150
AMPA	113		P	40 - 150
Endothall	91.3		P	40 - 150
Glufosinate	110		P	40 - 150
Glyphosate	125		P	40 - 150
Sucralose	102		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P427927

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	102		P	40 - 150
2,4,5-T	91.7		P	40 - 150
Acetaminophen	84.5		P	30 - 150
Acetamiprid	76.6		P	40 - 150
Afidopyropen	67.0		P	30 - 150
Bentazon	98.8		P	30 - 150
Benzovindiflupyr	86.7		P	40 - 150
Carbamazepine	81.1		P	40 - 150
Clothianidin	89.7		P	40 - 150
Dinotefuran	94.3		P	40 - 150
Diuron	73.5		P	40 - 150

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P427927

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fenuron	87.5		P	40 - 150
Fluridone	81.9		P	40 - 150
Hydrocodone	95.2		P	40 - 150
Ibuprofen	66.4		P	40 - 150
Imazapyr	96.3		P	40 - 150
Imidacloprid	83.8		P	40 - 150
Linuron	75.2		P	40 - 150
Mandestrobin	92.3		P	40 - 150
MCPP	101		P	40 - 150
Naproxen	65.0		P	40 - 150
Primidone	82.9		P	40 - 150
Pyraclostrobin	86.1		P	40 - 150
Silvex	103		P	40 - 150
Thiamethoxam	91.7		P	40 - 150
Tolfenpyrad	61.5		P	30 - 150
Triclopyr	97.0		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P427943

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.3		P	94 - 106

Reference Method: SM 2540 C-2015
Batch ID: P428328

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

Reference Method: SM 2540 D-2015
Batch ID: P428170

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	93.3		P	85 - 106

Reference Method: SM 4500-F- C-2011
Batch ID: P427950

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	101		P	96 - 104

Reference Method: SM 5310 B-2011
Batch ID: P427937

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	99.8		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.7 Rev. 4.4

Batch ID: P427862

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2396503	Calcium	106		P	80 - 120
2396503	Iron	110	109	P/P	80 - 120
2396503	Magnesium	109	106	P/P	80 - 120
2396503	Potassium	104	103	P/P	80 - 120
2396503	Sodium	104	104	P/P	80 - 120
2396503	Strontium	102	102	P/P	80 - 120
2396503	Tin	107	106	P/P	80 - 120
2396503	Titanium	106	105	P/P	80 - 120
2396503	Vanadium	104	104	P/P	80 - 120
2396503	Zinc	98.3	97.9	P/P	80 - 120
2396521	Calcium	107		P	80 - 120
2396521	Iron	108		P	80 - 120
2396521	Magnesium	106		P	80 - 120
2396521	Potassium	103		P	80 - 120
2396521	Sodium	102		P	80 - 120
2396521	Strontium	101		P	80 - 120
2396521	Tin	108		P	80 - 120
2396521	Titanium	106		P	80 - 120
2396521	Vanadium	104		P	80 - 120
2396521	Zinc	99.5		P	80 - 120

Reference Method: EPA 200.8 Rev. 5.4

Batch ID: P427862

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2396503	Aluminum	96.8	97.5	P/P	80 - 120
2396503	Antimony	103	104	P/P	80 - 120
2396503	Arsenic	103	103	P/P	80 - 120
2396503	Barium	103	104	P/P	80 - 120
2396503	Beryllium	98.6	97.2	P/P	80 - 120
2396503	Boron	95.4	98.0	P/P	80 - 120
2396503	Cadmium	101	103	P/P	80 - 120
2396503	Chromium	101	101	P/P	80 - 120
2396503	Cobalt	103	104	P/P	80 - 120
2396503	Copper	101	101	P/P	80 - 120
2396503	Lead	93.5	93.8	P/P	80 - 120
2396503	Manganese	98.5	100	P/P	80 - 120
2396503	Molybdenum	105	105	P/P	80 - 120
2396503	Nickel	102	102	P/P	80 - 120
2396503	Selenium	100	99.8	P/P	80 - 120
2396503	Silver	99.8	101	P/P	80 - 120
2396503	Thallium	103	104	P/P	80 - 120
2396521	Aluminum	95.1		P	80 - 120
2396521	Antimony	106		P	80 - 120
2396521	Arsenic	102		P	80 - 120
2396521	Barium	104		P	80 - 120
2396521	Beryllium	98.8		P	80 - 120
2396521	Boron	100		P	80 - 120
2396521	Cadmium	103		P	80 - 120
2396521	Chromium	103		P	80 - 120
2396521	Cobalt	103		P	80 - 120
2396521	Copper	98.2		P	80 - 120

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P427862

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2396521	Lead	95.1		P	80 - 120
2396521	Manganese	102		P	80 - 120
2396521	Molybdenum	105		P	80 - 120
2396521	Nickel	99.0		P	80 - 120
2396521	Selenium	98.5		P	80 - 120
2396521	Silver	101		P	80 - 120
2396521	Thallium	104		P	80 - 120

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427938

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2396562	Chloride	99.2		P	90 - 110
2396602	Chloride	98.1		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427940

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2396562	Sulfate	98.0		P	90 - 110
2396602	Sulfate	96.0		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427877

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2396564	Ammonia-N	98.4	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427794

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2396564	Kjeldahl Nitrogen	101	93.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427993

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2396535	NO2NO3-N	102	102	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427870

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2396603	Total-P	98.5	99.3	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P427744

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2396497	Acesulfame K	89.6	88.5	P/P	40 - 150
2396497	AMPA	101	98.8	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P427744

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2396497	Endothall	101	99.0	P/P	40 - 150
2396497	Glufosinate	94.3	88.5	P/P	40 - 150
2396497	Glyphosate	104	97.1	P/P	40 - 150
2396497	Sucralose	103	104	P/P	40 - 150

Reference Method: EPA 8321B

Batch ID: P427927

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2396497	2,4-D	115	122	P/P	40 - 150
2396497	2,4,5-T	110	106	P/P	40 - 150
2396497	Acetaminophen	82.1	77.0	P/P	30 - 150
2396497	Acetamiprid	77.5	82.7	P/P	40 - 150
2396497	Afidopyropen	54.6	70.6	P/P	30 - 150
2396497	Bentazon	104	104	P/P	30 - 150
2396497	Benzovindiflupyr	82.6	85.4	P/P	40 - 150
2396497	Carbamazepine	87.3	87.1	P/P	40 - 150
2396497	Clothianidin	87.9	87.3	P/P	40 - 150
2396497	Dinotefuran	99.8	101	P/P	40 - 150
2396497	Diuron	63.6	63.0	P/P	40 - 150
2396497	Fenuron	85.7	80.5	P/P	40 - 150
2396497	Fluridone	83.5	80.3	P/P	40 - 150
2396497	Hydrocodone	108	113	P/P	40 - 150
2396497	Ibuprofen	74.0	62.9	P/P	40 - 150
2396497	Imazapyr	111	115	P/P	40 - 150
2396497	Imidacloprid	100	91.4	P/P	40 - 150
2396497	Linuron	48.5	46.6	P/P	40 - 150
2396497	Mandestrobin	93.5	93.1	P/P	40 - 150
2396497	MCPP	111	109	P/P	40 - 150
2396497	Naproxen	77.2	102	P/P	40 - 150
2396497	Primidone	92.2	88.9	P/P	40 - 150
2396497	Pyraclostrobin	83.6	81.5	P/P	40 - 150
2396497	Silvex	113	112	P/P	40 - 150
2396497	Thiamethoxam	79.0	77.3	P/P	40 - 150
2396497	Tolfenpyrad	54.6	54.0	P/P	30 - 150
2396497	Triclopyr	102	105	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P427950

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2396626	Fluoride	102	101	P/P	94 - 104

Reference Method: SM 5310 B-2011

Batch ID: P427937

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2396532	Organic Carbon	89.5	89.9	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P427768

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2396534	Color (true)	2.71	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P427773

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2396534	Turbidity	5.59	Sample	P	0 - 20

Reference Method: EPA 200.7 Rev. 4.4
Batch ID: P427862

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2396503	Calcium	0.358	Spike	P	0 - 20
2396503	Iron	1.31	Spike	P	0 - 20
2396503	Magnesium	1.64	Spike	P	0 - 20
2396503	Potassium	0.540	Spike	P	0 - 20
2396503	Sodium	0.350	Spike	P	0 - 20
2396503	Strontium	0.425	Spike	P	0 - 20
2396503	Tin	1.32	Spike	P	0 - 20
2396503	Titanium	0.594	Spike	P	0 - 20
2396503	Vanadium	0.481	Spike	P	0 - 20
2396503	Zinc	0.427	Spike	P	0 - 20

Reference Method: EPA 200.8 Rev. 5.4
Batch ID: P427862

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2396503	Aluminum	0.661	Spike	P	0 - 20
2396503	Antimony	0.745	Spike	P	0 - 20
2396503	Arsenic	0.140	Spike	P	0 - 20
2396503	Barium	0.353	Spike	P	0 - 20
2396503	Beryllium	1.45	Spike	P	0 - 20
2396503	Boron	2.49	Spike	P	0 - 20
2396503	Cadmium	2.08	Spike	P	0 - 20
2396503	Chromium	0.257	Spike	P	0 - 20
2396503	Cobalt	0.860	Spike	P	0 - 20
2396503	Copper	0.385	Spike	P	0 - 20
2396503	Lead	0.268	Spike	P	0 - 20
2396503	Manganese	1.60	Spike	P	0 - 20
2396503	Molybdenum	0.0264	Spike	P	0 - 20
2396503	Nickel	0.0474	Spike	P	0 - 20
2396503	Selenium	0.654	Spike	P	0 - 20
2396503	Silver	1.14	Spike	P	0 - 20
2396503	Thallium	0.965	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P427938

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2396562	Chloride	0.326	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P427877

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2396564	Ammonia-N	0.968	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P427794

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2396564	Kjeldahl Nitrogen	6.81	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P427993

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2396535	NO2NO3-N	0.266	Spike	P	0 - 20

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P427870

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2396603	Total-P	0.450	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P427744

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2396497	Acesulfame K	1.25	Spike	P	0 - 30
2396497	AMPA	2.25	Spike	P	0 - 30
2396497	Endothall	2.34	Spike	P	0 - 30
2396497	Glufosinate	6.33	Spike	P	0 - 30
2396497	Glyphosate	6.59	Spike	P	0 - 30
2396497	Sucralose	1.38	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P427927

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2396497	2,4-D	5.63	Spike	P	0 - 30
2396497	2,4,5-T	3.82	Spike	P	0 - 30
2396497	Acetaminophen	4.95	Spike	P	0 - 30
2396497	Acetamidrid	6.42	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: EPA 8321B

Batch ID: P427927

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2396497	Afidopyropen	25.6	Spike	P	0 - 30
2396497	Bentazon	0.288	Spike	P	0 - 30
2396497	Benzovindiflupyr	3.32	Spike	P	0 - 30
2396497	Carbamazepine	0.215	Spike	P	0 - 30
2396497	Clothianidin	0.712	Spike	P	0 - 30
2396497	Dinotefuran	0.760	Spike	P	0 - 30
2396497	Diuron	0.994	Spike	P	0 - 30
2396497	Fenuron	6.25	Spike	P	0 - 30
2396497	Fluridone	3.86	Spike	P	0 - 30
2396497	Hydrocodone	4.50	Spike	P	0 - 30
2396497	Ibuprofen	16.3	Spike	P	0 - 30
2396497	Imazapyr	3.08	Spike	P	0 - 30
2396497	Imidacloprid	8.99	Spike	P	0 - 30
2396497	Linuron	3.89	Spike	P	0 - 30
2396497	Mandestrobin	0.486	Spike	P	0 - 30
2396497	MCPP	1.48	Spike	P	0 - 30
2396497	Naproxen	27.3	Spike	P	0 - 30
2396497	Primidone	3.73	Spike	P	0 - 30
2396497	Pyraclostrobin	2.57	Spike	P	0 - 30
2396497	Silvex	0.624	Spike	P	0 - 30
2396497	Thiamethoxam	2.19	Spike	P	0 - 30
2396497	Tolfenpyrad	1.08	Spike	P	0 - 30
2396497	Triclopyr	2.57	Spike	P	0 - 30

Reference Method: SM 2320 B-2011

Batch ID: P427943

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2396626	Total Alkalinity	0.697	Sample	P	0 - 3.8

Reference Method: SM 2540 C-2015

Batch ID: P428328

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2396609	TDS	3.12	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011

Batch ID: P427950

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2396626	Fluoride	0.476	Spike	P	0 - 1.6

Reference Method: SM 5310 B-2011

Batch ID: P427937

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2396532	Organic Carbon	0.332	Spike	P	0 - 20

Quality Assurance Report Precision

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

Quality Assurance Report Surrogates

Lab Sample ID: 2396581
Field Sample ID: G4SD0215

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	92.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	118	P	30 - 160
EPA 8321B	Carbamazepine-d10	53.0	P	30 - 160
EPA 8321B	Diuron-d6	40.6	P	30 - 160
EPA 8321B	Endothall-d6	107	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	59.3	P	30 - 160
EPA 8321B	Ibuprofen-d3	72.2	P	30 - 160
EPA 8321B	Primidone-d5	80.1	P	30 - 160
EPA 8321B	Sucralose-d6	113	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A118237

Included Lab Sample IDs: 2396561, 2396562, 2396565

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	102	103	P/P	90 - 110
Color (true)	103	102	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A118239

Included Lab Sample IDs: 2396561, 2396562, 2396565

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Turbidity	100	101	P/P	95 - 105

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A118247

Included Lab Sample IDs: 2396561, 2396562, 2396565

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	96.8	98.1	P/P	90 - 110
Chloride	98.1	96.3	P/P	90 - 110
Sulfate	95.7	97.0	P/P	90 - 110
Sulfate	97.0	95.8	P/P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A118293

Included Lab Sample IDs: 2396563, 2396564, 2396566

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.5	99.1	P/P	90 - 110
Ammonia-N	99.3	99.6	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A118317

Included Lab Sample IDs: 2396563, 2396564, 2396566

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

Reference Method: SM 5310 B-2011

Run ID: A118328

Included Lab Sample IDs: 2396563, 2396564, 2396566

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	102	100	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A118331

Included Lab Sample IDs: 2396561, 2396562, 2396565

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.7	93.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: SM 4500-F- C-2011

Run ID: A118331

Included Lab Sample IDs: 2396561, 2396562, 2396565

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

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A118335

Included Lab Sample IDs: 2396583

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Aluminum	94.9	95.6	P/P	90 - 110
Antimony	99.4	99.4	P/P	90 - 110
Arsenic	98.5	99.5	P/P	90 - 110
Barium	98.8	98.6	P/P	90 - 110
Beryllium	97.1	96.6	P/P	90 - 110
Boron	95.6	95.5	P/P	90 - 110
Cadmium	98.5	99.1	P/P	90 - 110
Chromium	97.3	97.7	P/P	90 - 110
Copper	96.7	96.3	P/P	90 - 110
Lead	91.4	91.9	P/P	90 - 110
Manganese	97.8	98.1	P/P	90 - 110
Molybdenum	98.9	98.5	P/P	90 - 110
Nickel	96.0	95.6	P/P	90 - 110
Selenium	98.7	98.2	P/P	90 - 110
Silver	97.3	97.6	P/P	90 - 110
Thallium	100	100	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0

Run ID: A118347

Included Lab Sample IDs: 2396563, 2396564, 2396566

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	105	106	P/P	90 - 110

Reference Method: EPA 200.8 Rev. 5.4

Run ID: A118354

Included Lab Sample IDs: 2396583

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

Reference Method: EPA 8321B

Run ID: A118355

Included Lab Sample IDs: 2396581

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	93.7	93.8	P/P	60 - 160
Sucralose	96.0	106	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A118357

Included Lab Sample IDs: 2396581

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

Reference Method: EPA 8321B
Run ID: A118357
Included Lab Sample IDs: 2396581

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	120	120	P/P	60 - 160
Endothall	95.3	99.9	P/P	60 - 160
Glufosinate	97.2	100	P/P	60 - 160
Glyphosate	107	117	P/P	60 - 160

Reference Method: EPA 200.7 Rev. 4.4
Run ID: A118359
Included Lab Sample IDs: 2396583

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Calcium	105	104	P/P	90 - 110
Iron	106	105	P/P	90 - 110
Magnesium	104	103	P/P	90 - 110
Potassium	102	101	P/P	90 - 110
Sodium	99.8	98.5	P/P	90 - 110
Strontium	99.3	100	P/P	90 - 110
Tin	102	101	P/P	90 - 110
Titanium	101	101	P/P	90 - 110
Vanadium	101	100	P/P	90 - 110
Zinc	99.6	98.8	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A118361
Included Lab Sample IDs: 2396563, 2396564, 2396566

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

Reference Method: EPA 8321B
Run ID: A118491
Included Lab Sample IDs: 2396581

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	89.3	84.6	P/P	50 - 150
2,4,5-T	83.0	85.4	P/P	50 - 150
Acetaminophen	116	94.5	P/P	60 - 160
Acetamiprid	101	103	P/P	50 - 150
Afidopyropen	86.6	73.7	P/P	50 - 150
Bentazon	123	124	P/P	50 - 160
Benzovindiflupyr	89.3	84.3	P/P	50 - 150
Carbamazepine	95.4	102	P/P	60 - 150
Clothianidin	102	101	P/P	60 - 150
Dinotefuran	108	112	P/P	50 - 150
Diuron	106	107	P/P	60 - 160
Fenuron	97.7	105	P/P	60 - 150
Fluridone	95.8	97.4	P/P	60 - 160
Hydrocodone	142	148	P/P	60 - 150
Ibuprofen	111	118	P/P	50 - 160
Imazapyr	113	118	P/P	50 - 150
Imidacloprid	93.2	91.5	P/P	60 - 150
Linuron	101	94.6	P/P	60 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A118491
Included Lab Sample IDs: 2396581

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Mandestrobin	95.2	99.0	P/P	50 - 150
MCCP	89.0	94.5	P/P	50 - 150
Naproxen	119	91.3	P/P	50 - 160
Primidone	110	109	P/P	60 - 150
Pyraclostrobin	86.5	89.2	P/P	60 - 150
Silvex	84.6	76.4	P/P	50 - 150
Thiamethoxam	122	123	P/P	50 - 150
Tolfenpyrad	84.5	82.8	P/P	60 - 150
Triclopyr	89.9	86.8	P/P	50 - 150

* 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					2.71	
EPA 180.1 Rev. 2.0	Turbidity	100					5.59	
EPA 200.7 Rev. 4.4	Calcium	106	106	107				0.358
	Iron	108	110	109	108			1.31
	Magnesium	106	109	106	106			1.64
	Potassium	103	104	103	103			0.540
	Sodium	102	104	104	102			0.350
	Strontium	101	101	102	102			0.425
	Tin	103	107	106	108			1.32
	Titanium	103	106	105	106			0.594
	Vanadium	100	104	104	104			0.481
	Zinc	98.0	98.3	97.9	99.5			0.427
EPA 200.8 Rev. 5.4	Aluminum	98.7	96.8	97.5	95.1			0.661
	Antimony	101	103	104	106			0.745
	Arsenic	103	103	103	102			0.140
	Barium	102	103	104	104			0.353
	Beryllium	97.4	98.6	97.2	98.8			1.45
	Boron	96.6	95.4	98.0	100			2.49
	Cadmium	99.4	101	103	103			2.08
	Chromium	98.1	101	101	103			0.257
	Cobalt	105	103	104	103			0.860
	Copper	101	101	101	98.2			0.385
	Lead	93.6	93.5	93.8	95.1			0.268
	Manganese	97.6	98.5	100	102			1.60
	Molybdenum	101	105	105	105			0.0264
	Nickel	102	102	102	99.0			0.0474
	Selenium	101	100	99.8	98.5			0.654
	Silver	99.6	99.8	101	101			1.14
	Thallium	100	103	104	104			0.965
EPA 300.0 Rev. 2.1	Chloride	102	99.2	98.1			0.326	
	Sulfate	98.4	98.0	96.0				
EPA 350.1 Rev. 2.0	Ammonia-N	95.8	98.4	100				0.968
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	96.8	101	93.2				6.81
EPA 353.2 Rev. 2.0	NO2NO3-N	104	102	102				0.266
EPA 365.1 Rev. 2.0	Total-P	98.7	98.5	99.3				0.450
EPA 8321B	2,4-D	102	115	122				5.63
	2,4,5-T	91.7	110	106				3.82
	Acesulfame K	93.9	89.6	88.5				1.25
	Acetaminophen	84.5	82.1	77.0				4.95
	Acetamiprid	76.6	77.5	82.7				6.42
	Afidopyropen	67.0	54.6	70.6				25.6
	AMPA	113	101	98.8				2.25
	Bentazon	98.8	104	104				0.288
	Benzovindiflupyr	86.7	82.6	85.4				3.32
	Carbamazepine	81.1	87.3	87.1				0.215
	Clothianidin	89.7	87.9	87.3				0.712
	Dinotefuran	94.3	99.8	101				0.760
	Diuron	73.5	63.6	63.0				0.994
	Endothall	91.3	101	99.0				2.34
	Fenuron	87.5	85.7	80.5				6.25
	Fluridone	81.9	83.5	80.3				3.86
	Glufosinate	110	94.3	88.5				6.33
	Glyphosate	125	104	97.1				6.59
	Hydrocodone	95.2	108	113				4.50

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
EPA 8321B	Ibuprofen	66.4	74.0	62.9		16.3
	Imazapyr	96.3	111	115		3.08
	Imidacloprid	83.8	100	91.4		8.99
	Linuron	75.2	48.5	46.6		3.89
	Mandestrobin	92.3	93.5	93.1		0.486
	MCPP	101	111	109		1.48
	Naproxen	65.0	77.2	102		27.3
	Primidone	82.9	92.2	88.9		3.73
	Pyraclostrobin	86.1	83.6	81.5		2.57
	Silvex	103	113	112		0.624
	Sucralose	102	103	104		1.38
	Thiamethoxam	91.7	79.0	77.3		2.19
	Tolfenpyrad	61.5	54.6	54.0		1.08
	Triclopyr	97.0	102	105		2.57
SM 2320 B-2011	Total Alkalinity	96.3			0.697	
SM 2540 C-2015	TDS	96.8			3.12	
SM 2540 D-2015	TSS	93.3				
SM 4500-F- C-2011	Fluoride	101	102	101		0.476
SM 5310 B-2011	Organic Carbon	99.8	89.5	89.9		0.332

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2396561, 2396562, 2396565
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2396561, 2396562, 2396565
EPA 200.7 Rev. 4.4	Total Recoverable Metals analysis using ICP emission spectroscopy for aqueous samples supporting Clean Water Act Projects	2396583
EPA 200.8 Rev. 5.4	Total Recoverable Metals analysis using ICP-MS for aqueous samples supporting Clean Water Act Projects	2396583
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2396561, 2396562, 2396565
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2396561, 2396562, 2396565
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2396563, 2396564, 2396566
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2396563, 2396564, 2396566
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2396563, 2396564, 2396566
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2396563, 2396564, 2396566
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2396581
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2396561, 2396562, 2396565
SM 2340 B-2011	Hardness by calculation, in aqueous matrices, reported as mg/L CaCO ₃	2396583
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2396561, 2396562, 2396565
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2396561, 2396562, 2396565
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2396561, 2396562, 2396565
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2396563, 2396564, 2396566

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	03/28/2023			03/28/2023 14:40	Alexis Price	2396562, 2396565
	03/28/2023			03/28/2023 14:56	Alexis Price	2396561
EPA 180.1 Rev. 2.0	03/28/2023			03/28/2023 14:13	Chandler E Cox	2396561
	03/28/2023			03/28/2023 14:14	Chandler E Cox	2396562, 2396565
EPA 200.7 Rev. 4.4	03/28/2023	03/30/2023 11:35	George D Taylor	04/03/2023 18:08	McKinley C Carter	2396583
EPA 200.8 Rev. 5.4	03/28/2023	03/30/2023 11:35	George D Taylor	03/31/2023 20:19	Conrad Hartmann	2396583
	03/28/2023	03/30/2023 11:35	George D Taylor	04/03/2023 16:18	Conrad Hartmann	2396583
EPA 300.0 Rev. 2.1	03/28/2023			03/31/2023 11:20	James L Waggeberby	2396562
	03/28/2023			03/31/2023 14:05	James L Waggeberby	2396561
EPA 350.1 Rev. 2.0	03/28/2023			03/31/2023 14:51	James L Waggeberby	2396565
	03/28/2023			03/30/2023 12:38	Khloe J Berg	2396564
	03/28/2023			03/30/2023 12:42	Khloe J Berg	2396563
	03/28/2023			03/30/2023 13:37	Khloe J Berg	2396566
EPA 351.2 Rev. 2.0	03/28/2023	03/30/2023 12:39	Simonne.V. Calhoun	04/03/2023 14:27	Samantha L Bates	2396563
	03/28/2023	03/30/2023 12:39	Simonne.V. Calhoun	04/03/2023 14:28	Samantha L Bates	2396564
EPA 353.2 Rev. 2.0	03/28/2023	03/30/2023 12:39	Simonne.V. Calhoun	04/03/2023 14:33	Samantha L Bates	2396566
	03/28/2023			04/04/2023 09:57	Beverly Y. Sanders	2396563
	03/28/2023			04/04/2023 09:58	Beverly Y. Sanders	2396564
EPA 365.1 Rev. 2.0	03/28/2023			04/04/2023 10:00	Beverly Y. Sanders	2396566
	03/28/2023	03/30/2023 14:30	Alexis Price	03/31/2023 12:55	James L Waggeberby	2396563
	03/28/2023	03/30/2023 14:30	Alexis Price	03/31/2023 12:56	James L Waggeberby	2396564
EPA 8321B	03/28/2023	03/30/2023 14:30	Alexis Price	03/31/2023 12:57	James L Waggeberby	2396566
	03/28/2023	03/31/2023 13:00	Manjita Shrestha	03/31/2023 18:03	Manjita Shrestha	2396581
	03/28/2023	03/31/2023 13:00	Manjita Shrestha	03/31/2023 20:29	Manjita Shrestha	2396581
SM 2320 B-2011	03/28/2023	03/31/2023 13:00	Manjita Shrestha	04/01/2023 03:13	Manjita Shrestha	2396581
	03/28/2023	04/03/2023 09:00	Hoor Shaik	04/07/2023 21:19	Juyoung Kim	2396581
	03/28/2023			03/31/2023 19:40	Dale L. Simmons	2396561
	03/28/2023			03/31/2023 19:54	Dale L. Simmons	2396562
SM 2340 B-2011	03/28/2023			03/31/2023 21:36	Dale L. Simmons	2396565
	03/28/2023			04/03/2023 18:08	McKinley C Carter	2396583
SM 2540 C-2015	03/28/2023			03/29/2023 16:02	Yijie Li	2396561, 2396562, 2396565
SM 2540 D-2015	03/28/2023			03/29/2023 16:02	Yijie Li	2396561, 2396562, 2396565
SM 4500-F- C-2011	03/28/2023			03/31/2023 19:40	Dale L. Simmons	2396561
	03/28/2023			03/31/2023 19:54	Dale L. Simmons	2396562
	03/28/2023			03/31/2023 21:36	Dale L. Simmons	2396565
SM 5310 B-2011	03/28/2023			04/01/2023 05:07	Khloe J Berg	2396563
	03/28/2023			04/01/2023 05:21	Khloe J Berg	2396564
	03/28/2023			04/01/2023 05:35	Khloe J Berg	2396566