

Chemical Analysis Report

SE-DIST-2024-03-27-03

Florida DEP Laboratory
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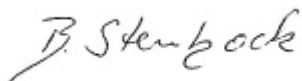
Event Description: **SMP - Fort Drum**
Request ID: **RQ-2024-03-18-38**
Customer: **SE-DIST**
Project ID: **SMP**

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

Date Certified: 17-APR-2024 15:32



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: 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: GOMEZ CREEK NORTH AT 441

Collection Date/Time: 03/26/2024 10:55

Field ID: G3SE0046

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2477941	DEP SOP: NU-094-1	Color (true)	93		PCU	P443406	
	EPA 180.1 Rev. 2.0	Turbidity	5.8		NTU	P443393	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P443665	
		Sulfate	7.1		mg SO4/L	P443668	
	SM 2320 B-2011	Total Alkalinity	13		mg CaCO3/L	P443657	
	SM 2540 C-2015	TDS	110		mg/L	P443898	
	SM 2540 D-2015	TSS	7	I	mg/L	P443730	
	SM 4500-F- C-2011	Fluoride	0.15		mg F/L	P443677	
2477942	EPA 350.1 Rev. 2.0	Ammonia-N	0.023		mg N/L	P443575	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.0		mg N/L	P443427	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.005	I	mg N/L	P443468	
	EPA 365.1 Rev. 2.0	Total-P	0.41		mg P/L	P443767	
	SM 5310 B-2014	Organic Carbon	19		mg C/L	P443670	

Ref. Method and Comment:

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

Sample Location: OTTER CREEK AT 441

Collection Date/Time: 03/26/2024 11:10

Field ID: G1SE0007

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2477939	DEP SOP: NU-094-1	Color (true)	180		PCU	P443406	
	EPA 180.1 Rev. 2.0	Turbidity	3.1		NTU	P443393	
	EPA 300.0 Rev. 2.1	Chloride	180		mg Cl/L	P443665	
		Sulfate	23		mg SO4/L	P443668	
	SM 2320 B-2011	Total Alkalinity	280		mg CaCO3/L	P443657	
	SM 2540 C-2015	TDS	710		mg/L	P443898	
	SM 2540 D-2015	TSS	3	I	mg/L	P443730	
	SM 4500-F- C-2011	Fluoride	0.15		mg F/L	P443677	
2477940	EPA 350.1 Rev. 2.0	Ammonia-N	11		mg N/L	P443575	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	13		mg N/L	P443989	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.86		mg N/L	P443468	
	EPA 365.1 Rev. 2.0	Total-P	1.6		mg P/L	P443767	
	SM 5310 B-2014	Organic Carbon	45		mg C/L	P443670	

Ref. Method and Comment:

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

Sample Location: COWBONE CREEK NEAR QUAIL CREEK Collection Date/Time: 03/26/2024 10:30

Field ID: G5SE0148 Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2477937	DEP SOP: NU-094-1	Color (true)	210		PCU	P443406	
	EPA 180.1 Rev. 2.0	Turbidity	0.95	I	NTU	P443393	
	EPA 300.0 Rev. 2.1	Chloride	88		mg Cl/L	P443665	
		Sulfate	8.5		mg SO4/L	P443668	
	SM 2320 B-2011	Total Alkalinity	81		mg CaCO3/L	P443657	
	SM 2540 C-2015	TDS	342	A	mg/L	P443898	
	SM 2540 D-2015	TSS	3	IA	mg/L	P443730	
2477938	SM 4500-F- C-2011	Fluoride	0.087	I	mg F/L	P443677	
	EPA 350.1 Rev. 2.0	Ammonia-N	0.024		mg N/L	P443575	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.6		mg N/L	P443427	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.082		mg N/L	P443468	
	EPA 365.1 Rev. 2.0	Total-P	0.53		mg P/L	P443767	
2477949	SM 5310 B-2014	Organic Carbon	37		mg C/L	P443670	
	EPA 8321B	2,4-D	0.0020	U	ug/L	P443301	
		Acesulfame K	0.10	U	ug/L	P443330	
		2,4,5-T	0.0040	U	ug/L	P443301	
		AMPA	0.10	U	ug/L	P443330	
		Acetaminophen	0.0080	U	ug/L	P443301	
		Acetamiprid	0.0020	U	ug/L	P443301	
		Endothall	0.25	U	ug/L	P443330	
		Glufosinate	0.10	U	ug/L	P443330	
		Glyphosate	0.10	U	ug/L	P443330	
		Afidopyropen	0.0020	U	ug/L	P443301	RPD
		Bentazon	8.0E-04	U	ug/L	P443301	
		Sucralose	0.089		ug/L	P443330	
		Benzovindiflupyr	0.0020	U	ug/L	P443301	
		Carbamazepine	8.0E-04	U	ug/L	P443301	
		Clothianidin	0.0020	U	ug/L	P443301	
		Dinotefuran	0.0020	U	ug/L	P443301	
		Diuron	0.0020	U	ug/L	P443301	
		Fenuron	0.032	U	ug/L	P443301	
		Fluridone	8.0E-04	U	ug/L	P443301	
		Imazapyr	0.033		ug/L	P443301	
		Hydrocodone	0.0020	U	ug/L	P443301	
		Ibuprofen	0.080	U	ug/L	P443301	
		Imidacloprid	0.0020	U	ug/L	P443301	
		Linuron	0.0040	U	ug/L	P443301	
		Mandestrobin	0.0020	U	ug/L	P443301	
		MCPP	0.0020	U	ug/L	P443301	
		Naproxen	0.0080	U	ug/L	P443301	
		Primidone	0.0040	U	ug/L	P443301	
		Pyraclostrobin	0.0020	U	ug/L	P443301	
		Silvex	0.0040	U	ug/L	P443301	
		Thiamethoxam	0.0020	U	ug/L	P443301	

Field ID: G5SE0148

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2477949	EPA 8321B	Tolfenpyrad	0.0020	U	ug/L	P443301	
		Triclopyr	0.0040	U	ug/L	P443301	

Ref. Method and Comment:
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: P443406

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P443393

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P443665

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P443668

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P443575

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P443427

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P443989

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P443468

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P443767

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

Quality Assurance Report

Method Blank Results

Reference Method: EPA 8321B

Batch ID: P443301

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: P443330

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: P443657

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

Reference Method: SM 2540 C-2015

Batch ID: P443898

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report
Method Blank Results

Reference Method: SM 2540 D-2015
Batch ID: P443730

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P443677

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P443670

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: P443406

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Color (true)	97.5		P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P443393

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P443665

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P443668

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	105		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P443575

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P443427

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	95.3		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P443989

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: P443468

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: P443767

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P443301

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	108		P	40 - 150
2,4,5-T	107		P	40 - 150
Acetaminophen	92.5		P	30 - 150
Acetamiprid	87.8		P	40 - 150
Afidopyropen	67.5		P	30 - 150
Bentazon	100		P	30 - 150
Benzovindiflupyr	86.0		P	40 - 150
Carbamazepine	86.7		P	40 - 150
Clothianidin	98.7		P	40 - 150
Dinotefuran	102		P	40 - 150
Diuron	94.1		P	40 - 150
Fenuron	93.1		P	40 - 150
Fluridone	93.5		P	40 - 150
Hydrocodone	99.6		P	40 - 150
Ibuprofen	83.0		P	40 - 150
Imazapyr	93.1		P	40 - 150
Imidacloprid	91.1		P	40 - 150
Linuron	92.2		P	40 - 150
Mandestrobin	96.3		P	40 - 150
MCPP	108		P	40 - 150
Naproxen	77.4		P	40 - 150
Primidone	81.9		P	40 - 150
Pyraclostrobin	80.2		P	40 - 150
Silvex	92.2		P	40 - 150
Thiamethoxam	98.4		P	40 - 150
Tolfenpyrad	51.6		P	30 - 150
Triclopyr	116		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P443330

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	105		P	40 - 150
AMPA	118		P	40 - 160
Endothall	104		P	40 - 160
Glufosinate	122		P	40 - 160
Glyphosate	122		P	40 - 160
Sucralose	101		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P443657

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	100		P	92 - 105

Reference Method: SM 2540 C-2015
Batch ID: P443898

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TDS	95.2		P	85 - 115

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2540 D-2015
Batch ID: P443730

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
TSS	94.4		P	85 - 115

Reference Method: SM 4500-F- C-2011
Batch ID: P443677

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	99.3		P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P443670

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

Quality Assurance Report
Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P443665

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2477883	Chloride	106		P	90 - 110
2477966	Chloride	104		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P443668

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2477883	Sulfate	103		P	90 - 110
2477966	Sulfate	104		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P443575

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2477907	Ammonia-N	97.6	99.6	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P443427

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2477957	Kjeldahl Nitrogen	95.0	103	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P443989

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2480545	Kjeldahl Nitrogen	107	106	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P443468

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2477911	NO2NO3-N	95.5	96.0	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P443767

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2477972	Total-P	104	105	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P443301

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2477584	2,4-D	87.0	97.8	P/P	40 - 150
2477584	2,4,5-T	90.4	91.9	P/P	40 - 150
2477584	Acetaminophen	98.2	98.3	P/P	30 - 150
2477584	Acetamiprid	61.8	58.5	P/P	40 - 150
2477584	Afidopyrophen	56.0	38.9	P/P	30 - 150
2477584	Bentazon	44.1	50.4	P/P	30 - 150
2477584	Benzovindiflupyr	77.4	83.4	P/P	40 - 150
2477584	Carbamazepine	63.4	62.6	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P443301

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2477584	Clothianidin	89.9	93.3	P/P	40 - 150
2477584	Dinotefuran	82.5	86.5	P/P	40 - 150
2477584	Diuron	67.5	64.6	P/P	40 - 150
2477584	Fenuron	61.6	63.8	P/P	40 - 150
2477584	Fluridone	74.7	74.1	P/P	40 - 150
2477584	Hydrocodone	73.7	77.7	P/P	40 - 150
2477584	Ibuprofen	81.3	71.6	P/P	40 - 150
2477584	Imazapyr	102	109	P/P	40 - 150
2477584	Imidacloprid	108	113	P/P	40 - 150
2477584	Linuron	69.3	72.7	P/P	40 - 150
2477584	Mandestrobin	85.6	88.9	P/P	40 - 150
2477584	MCPPP	90.4	97.0	P/P	40 - 150
2477584	Naproxen	84.0	75.8	P/P	40 - 150
2477584	Primidone	79.0	84.2	P/P	40 - 150
2477584	Pyraclostrobin	76.1	83.0	P/P	40 - 150
2477584	Silvex	76.2	86.2	P/P	40 - 150
2477584	Thiamethoxam	88.7	90.9	P/P	40 - 150
2477584	Tolfenpyrad	49.4	55.6	P/P	30 - 150
2477584	Triclopyr	80.5	93.0	P/P	40 - 150

Reference Method: EPA 8321B
Batch ID: P443330

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2477584	Acesulfame K	122	131	P/P	40 - 150
2477584	AMPA	101	99.3	P/P	40 - 160
2477584	Endothall	102	105	P/P	40 - 160
2477584	Glufosinate	110	114	P/P	40 - 160
2477584	Glyphosate	110	108	P/P	40 - 160
2477584	Sucralose	103	103	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P443677

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2477966	Fluoride	101	102	P/P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P443670

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2477911	Organic Carbon	98.8	99.7	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P443406

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2477873	Color (true)	2.84	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P443393

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2477881	Turbidity	8.26	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P443665

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2477883	Chloride	0.848	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P443668

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2477883	Sulfate	0.544	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P443575

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2477907	Ammonia-N	1.76	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P443427

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2477957	Kjeldahl Nitrogen	5.67	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P443989

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2480545	Kjeldahl Nitrogen	0.946	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P443468

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2477911	NO2NO3-N	0.522	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P443767

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2477972	Total-P	0.859	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P443301

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2477584	2,4-D	11.1	Spike	P	0 - 30
2477584	2,4,5-T	1.58	Spike	P	0 - 30
2477584	Acetaminophen	0.0602	Spike	P	0 - 30
2477584	Acetamiprid	5.42	Spike	P	0 - 30
2477584	Afidopyropen	35.9	Spike	F	0 - 30
2477584	Bentazon	6.24	Spike	P	0 - 30
2477584	Benzovindiflupyr	7.49	Spike	P	0 - 30
2477584	Carbamazepine	1.28	Spike	P	0 - 30
2477584	Clothianidin	3.69	Spike	P	0 - 30
2477584	Dinotefuran	4.67	Spike	P	0 - 30
2477584	Diuron	4.37	Spike	P	0 - 30
2477584	Fenuron	3.50	Spike	P	0 - 30
2477584	Fluridone	0.646	Spike	P	0 - 30
2477584	Hydrocodone	5.20	Spike	P	0 - 30
2477584	Ibuprofen	12.7	Spike	P	0 - 30
2477584	Imazapyr	4.81	Spike	P	0 - 30
2477584	Imidacloprid	4.65	Spike	P	0 - 30
2477584	Linuron	4.78	Spike	P	0 - 30
2477584	Mandestrobin	3.83	Spike	P	0 - 30
2477584	MCP	7.00	Spike	P	0 - 30
2477584	Naproxen	10.2	Spike	P	0 - 30
2477584	Primidone	6.38	Spike	P	0 - 30
2477584	Pyraclostrobin	8.65	Spike	P	0 - 30
2477584	Silvex	12.4	Spike	P	0 - 30
2477584	Thiamethoxam	2.52	Spike	P	0 - 30
2477584	Tolfenpyrad	11.8	Spike	P	0 - 30
2477584	Triclopyr	14.3	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P443330

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2477584	Acesulfame K	7.18	Spike	P	0 - 30
2477584	AMPA	1.28	Spike	P	0 - 30
2477584	Endothall	3.03	Spike	P	0 - 30
2477584	Glufosinate	3.34	Spike	P	0 - 30
2477584	Glyphosate	1.60	Spike	P	0 - 30
2477584	Sucralose	0.182	Spike	P	0 - 30

Quality Assurance Report
Precision

Reference Method: SM 2320 B-2011
Batch ID: P443657

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2477966	Total Alkalinity	3.00	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P443898

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2477937	TDS	3.21	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P443677

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2477966	Fluoride	0.494	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P443670

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2477911	Organic Carbon	0.608	Spike	P	0 - 15

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

Quality Assurance Report

Surrogates

Lab Sample ID: 2477949

Field Sample ID: G5SE0148

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	79.4	P	30 - 160
EPA 8321B	Acetaminophen-d4	75.1	P	30 - 160
EPA 8321B	Carbamazepine-d10	56.2	P	30 - 160
EPA 8321B	Diuron-d6	59.8	P	30 - 160
EPA 8321B	Endothall-d6	108	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	115	P	30 - 160
EPA 8321B	Ibuprofen-d3	72.6	P	30 - 160
EPA 8321B	Primidone-d5	63.2	P	30 - 160
EPA 8321B	Sucralose-d6	108	P	30 - 160

Quality Assurance Report
Calibration Verification

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A125024
Included Lab Sample IDs: 2477937, 2477939, 2477941

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

Reference Method: DEP SOP: NU-094-1
Run ID: A125030
Included Lab Sample IDs: 2477941

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	97.3	98.1	P/P	90 - 110

Reference Method: DEP SOP: NU-094-1
Run ID: A125031
Included Lab Sample IDs: 2477937, 2477939

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	98.2	99.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A125052
Included Lab Sample IDs: 2477938, 2477940, 2477942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	98.0	97.5	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A125055
Included Lab Sample IDs: 2477949

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	112	117	P/P	60 - 160
Endothall	99.3	101	P/P	60 - 160
Glufosinate	117	118	P/P	60 - 160
Glyphosate	122	125	P/P	60 - 160

Reference Method: EPA 8321B
Run ID: A125080
Included Lab Sample IDs: 2477949

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	126	133	P/P	60 - 160
Sucralose	104	100	P/P	60 - 160

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A125089
Included Lab Sample IDs: 2477938, 2477942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	101	99.8	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A125090

Included Lab Sample IDs: 2477938, 2477940, 2477942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	100	98.9	P/P	90 - 110
Ammonia-N	98.4	99.1	P/P	90 - 110

Reference Method: SM 2320 B-2011

Run ID: A125126

Included Lab Sample IDs: 2477937, 2477939, 2477941

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	96.5	96.3	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A125126

Included Lab Sample IDs: 2477937, 2477939, 2477941

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

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A125129

Included Lab Sample IDs: 2477937, 2477939, 2477941

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	97.4	96.3	P/P	90 - 110
Sulfate	98.8	98.3	P/P	90 - 110

Reference Method: SM 5310 B-2014

Run ID: A125130

Included Lab Sample IDs: 2477938, 2477940, 2477942

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	119	98.8	P/P	70 - 130

Reference Method: EPA 365.1 Rev. 2.0

Run ID: A125187

Included Lab Sample IDs: 2477938, 2477940, 2477942

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

Reference Method: EPA 8321B

Run ID: A125230

Included Lab Sample IDs: 2477949

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	110	104	P/P	50 - 150
2,4,5-T	110	99.1	P/P	50 - 150
Acetaminophen	108	105	P/P	60 - 160
Acetamiprid	111	111	P/P	50 - 150
Afidopyropen	96.7	98.0	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A125230
Included Lab Sample IDs: 2477949

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Bentazon	103	106	P/P	50 - 160
Benzovindiflupyr	104	100	P/P	50 - 150
Carbamazepine	102	107	P/P	60 - 150
Clothianidin	111	110	P/P	60 - 150
Dinotefuran	112	110	P/P	50 - 150
Diuron	109	115	P/P	60 - 160
Fenuron	105	106	P/P	60 - 150
Fluridone	108	108	P/P	60 - 160
Hydrocodone	113	114	P/P	60 - 150
Ibuprofen	73.6	76.4	P/P	50 - 160
Imazapyr	97.6	102	P/P	50 - 150
Imidacloprid	96.7	101	P/P	60 - 150
Linuron	97.4	105	P/P	60 - 150
Mandestrobin	109	102	P/P	50 - 150
MCPP	120	111	P/P	50 - 150
Naproxen	111	82.4	P/P	50 - 160
Primidone	95.6	89.1	P/P	60 - 150
Pyraclostrobin	101	104	P/P	60 - 150
Silvex	110	112	P/P	50 - 150
Thiamethoxam	109	113	P/P	50 - 150
Tolfenpyrad	101	99.5	P/P	60 - 150
Triclopyr	110	104	P/P	50 - 150

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A125286
Included Lab Sample IDs: 2477940

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	104	101	P/P	90 - 110

* Pass/Fail determinations are made for each bracketing calibration verification check.
Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.
Where they are different, both control limits are provided.

Quality Assurance Report

Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		Precision	
					LCS	MS
DEP SOP: NU-094-1	Color (true)	97.5			2.84	
EPA 180.1 Rev. 2.0	Turbidity	104			8.26	
EPA 300.0 Rev. 2.1	Chloride	103	106	104	0.848	
	Sulfate	105	103	104	0.544	
EPA 350.1 Rev. 2.0	Ammonia-N	97.6	97.6	99.6		1.76
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	95.3	95.0	103		5.67
	Kjeldahl Nitrogen	101	107	106		0.946
EPA 353.2 Rev. 2.0	NO2NO3-N	104	95.5	96.0		0.522
EPA 365.1 Rev. 2.0	Total-P	104	104	105		0.859
EPA 8321B	2,4-D	108	87.0	97.8		11.1
	2,4,5-T	107	90.4	91.9		1.58
	Acesulfame K	105	122	131		7.18
	Acetaminophen	92.5	98.3	98.2		0.0602
	Acetamiprid	87.8	58.5	61.8		5.42
	Afidopyropen	67.5	56.0	38.9		35.9
	AMPA	118	101	99.3		1.28
	Bentazon	100	44.1	50.4		6.24
	Benzovindiflupyr	86.0	77.4	83.4		7.49
	Carbamazepine	86.7	63.4	62.6		1.28
	Clothianidin	98.7	93.3	89.9		3.69
	Dinotefuran	102	86.5	82.5		4.67
	Diuron	94.1	67.5	64.6		4.37
	Endothall	104	102	105		3.03
	Fenuron	93.1	63.8	61.6		3.50
	Fluridone	93.5	74.7	74.1		0.646
	Glufosinate	122	110	114		3.34
	Glyphosate	122	110	108		1.60
	Hydrocodone	99.6	77.7	73.7		5.20
	Ibuprofen	83.0	81.3	71.6		12.7
	Imazapyr	93.1	102	109		4.81
	Imidacloprid	91.1	113	108		4.65
	Linuron	92.2	69.3	72.7		4.78
	Mandestrobin	96.3	85.6	88.9		3.83
	MCPP	108	90.4	97.0		7.00
	Naproxen	77.4	84.0	75.8		10.2
	Primidone	81.9	84.2	79.0		6.38
	Pyraclostrobin	80.2	76.1	83.0		8.65
	Silvex	92.2	76.2	86.2		12.4
	Sucralose	101	103	103		0.182
	Thiamethoxam	98.4	90.9	88.7		2.52
	Tolfenpyrad	51.6	49.4	55.6		11.8
	Triclopyr	116	80.5	93.0		14.3
SM 2320 B-2011	Total Alkalinity	100			3.00	
SM 2540 C-2015	TDS	95.2			3.21	
SM 2540 D-2015	TSS	94.4				
SM 4500-F- C-2011	Fluoride	99.3	101	102		0.494
SM 5310 B-2014	Organic Carbon	97.6	98.8	99.7		0.608

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2477937, 2477939, 2477941
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2477937, 2477939, 2477941

Reference Method Descriptions

Method	Description	Associated Samples
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2477937, 2477939, 2477941
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2477937, 2477939, 2477941
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2477938, 2477940, 2477942
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2477938, 2477940, 2477942
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2477938, 2477940, 2477942
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2477938, 2477940, 2477942
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2477949
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO3/L	2477937, 2477939, 2477941
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2477937, 2477939, 2477941
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2477937, 2477939, 2477941
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2477937, 2477939, 2477941
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2477938, 2477940, 2477942

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	03/27/2024			03/27/2024 14:54	Jessica K Wilks	2477941
	03/27/2024			03/27/2024 15:33	Jessica K Wilks	2477937
	03/27/2024			03/27/2024 15:34	Jessica K Wilks	2477939
EPA 180.1 Rev. 2.0	03/27/2024			03/27/2024 13:32	Chandler E Cox	2477937
	03/27/2024			03/27/2024 13:33	Chandler E Cox	2477939, 2477941
EPA 300.0 Rev. 2.1	03/27/2024			04/02/2024 03:35	Samantha L Bates	2477937
	03/27/2024			04/02/2024 03:50	Samantha L Bates	2477939
	03/27/2024			04/02/2024 04:05	Samantha L Bates	2477941
EPA 350.1 Rev. 2.0	03/27/2024			04/01/2024 12:26	Khloe J Berg	2477938
	03/27/2024			04/01/2024 13:11	Khloe J Berg	2477940
	03/27/2024			04/01/2024 13:13	Khloe J Berg	2477942
EPA 351.2 Rev. 2.0	03/27/2024	03/29/2024 12:42	Simonne.V. Calhoun	04/01/2024 12:29	Robyn Blevins	2477938
	03/27/2024	03/29/2024 12:42	Simonne.V. Calhoun	04/01/2024 12:33	Robyn Blevins	2477942
	03/27/2024	04/10/2024 11:04	Robyn Blevins	04/11/2024 12:23	Robyn Blevins	2477940
EPA 353.2 Rev. 2.0	03/27/2024			03/28/2024 13:53	Fadila Guebre	2477938
	03/27/2024			03/28/2024 14:33	Fadila Guebre	2477940
	03/27/2024			03/28/2024 14:34	Fadila Guebre	2477942
EPA 365.1 Rev. 2.0	03/27/2024	04/04/2024 15:07	Josephine W Gitau	04/05/2024 09:45	Elise M. Gillis	2477938
	03/27/2024	04/04/2024 15:07	Josephine W Gitau	04/05/2024 09:49	Elise M. Gillis	2477942
	03/27/2024	04/04/2024 15:07	Josephine W Gitau	04/05/2024 11:30	Elise M. Gillis	2477940
EPA 8321B	03/27/2024	03/28/2024 09:00	Hoor Shaik	04/09/2024 02:41	Juyoung Kim	2477949
	03/27/2024	03/28/2024 13:30	Samatha Luckman	03/28/2024 20:08	Samatha Luckman	2477949
	03/27/2024	03/28/2024 13:30	Samatha Luckman	03/29/2024 16:40	Samatha Luckman	2477949
SM 2320 B-2011	03/27/2024			04/02/2024 00:02	Dale L. Simmons	2477937
	03/27/2024			04/02/2024 00:14	Dale L. Simmons	2477941
	03/27/2024			04/02/2024 00:51	Dale L. Simmons	2477939
SM 2540 C-2015	03/27/2024			03/29/2024 15:27	Yijie Li	2477937, 2477939, 2477941
SM 2540 D-2015	03/27/2024			03/29/2024 15:27	Yijie Li	2477937, 2477939, 2477941
SM 4500-F- C-2011	03/27/2024			04/02/2024 00:02	Dale L. Simmons	2477937
	03/27/2024			04/02/2024 00:14	Dale L. Simmons	2477941
	03/27/2024			04/02/2024 00:51	Dale L. Simmons	2477939
SM 5310 B-2014	03/27/2024			04/01/2024 22:33	Jessica K Wilks	2477938
	03/27/2024			04/01/2024 22:49	Jessica K Wilks	2477940
	03/27/2024			04/01/2024 23:04	Jessica K Wilks	2477942