

Chemical Analysis Report

SO-DIST-2024-01-11-02

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

Event Description: **2024 SMP : Highlands Creeks**
Request ID: **RQ-2024-01-08-36**
Customer: **SO-DIST**
Project ID: **SMP**

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Date Certified: 31-JAN-2024 13:47



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: Bonnet Creek at SR 64

Collection Date/Time: 01/10/2024 09:40

Field ID: G4SD0107

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2460472	EPA 8321B	Acesulfame K	0.10	U	ug/L	P439740	
		2,4-D	0.0020	U	ug/L	P439906	
		AMPA	0.10	U	ug/L	P439740	
		2,4,5-T	0.0040	U	ug/L	P439906	
		Acetaminophen	0.0080	U	ug/L	P439906	
		Endothall	0.25	U	ug/L	P439740	
		Acetamiprid	0.0020	U	ug/L	P439906	
		Glufosinate	0.10	U	ug/L	P439740	
		Glyphosate	0.10	U	ug/L	P439740	
		Afidopyropen	0.0020	U	ug/L	P439906	
		Sucralose	0.029	I	ug/L	P439740	
		Bentazon	0.019		ug/L	P439906	
		Benzovindiflupyr	0.0020	U	ug/L	P439906	
		Carbamazepine	8.0E-04	U	ug/L	P439906	
		Clothianidin	0.014		ug/L	P439906	
		Dinotefuran	0.0020	U	ug/L	P439906	
		Diuron	0.0020	U	ug/L	P439906	
		Fenuron	0.032	U	ug/L	P439906	
		Fluridone	8.0E-04	U	ug/L	P439906	
		Imazapyr	0.0040	U	ug/L	P439906	
		Hydrocodone	0.0020	U	ug/L	P439906	
		Ibuprofen	0.080	U	ug/L	P439906	
		Imidacloprid	0.011		ug/L	P439906	
		Linuron	0.0040	U	ug/L	P439906	
		Mandestrobin	0.0020	U	ug/L	P439906	
		MCPP	0.0020	U	ug/L	P439906	
		Naproxen	0.0080	U	ug/L	P439906	
		Primidone	0.0040	U	ug/L	P439906	
		Pyraclostrobin	0.0020	U	ug/L	P439906	
		Silvex	0.0040	U	ug/L	P439906	
		Thiamethoxam	0.084		ug/L	P439906	
		Tolfenpyrad	0.0020	U	ug/L	P439906	
		Triclopyr	0.0040	U	ug/L	P439906	

Ref. Method and Comment:

EPA 8321B: MS accuracy for glyphosate could not be assessed due to a high concentration of parameter in the spiked sample.

Sample Location: Blue Lake at Center

Collection Date/Time: 01/10/2024 11:30

Field ID: G4SD0157

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2460462	DEP SOP: NU-094-1	Color (true)	12	A	PCU	P439824	
	EPA 180.1 Rev. 2.0	Turbidity	3.6		NTU	P439829	
	EPA 300.0 Rev. 2.1	Chloride	20		mg Cl/L	P440407	
		Sulfate	24		mg SO4/L	P440411	
	SM 2320 B-2011	Total Alkalinity	17		mg CaCO3/L	P440091	
	SM 2540 C-2015	TDS	95		mg/L	P440340	
	SM 2540 D-2015	TSS	4	I	mg/L	P440335	
	SM 4500-F- C-2011	Fluoride	0.025	U	mg F/L	P440094	
2460463	EPA 350.1 Rev. 2.0	Ammonia-N	0.18		mg N/L	P439933	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.96		mg N/L	P439856	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.13		mg N/L	P439955	
	EPA 365.1 Rev. 2.0	Total-P	0.028		mg P/L	P439937	
	SM 5310 B-2014	Organic Carbon	7.0		mg C/L	P439917	

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: LAKEPLACIDOUTLETATSR70W

Collection Date/Time: 01/10/2024 12:05

Field ID: G4SD0213

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2460464	DEP SOP: NU-094-1	Color (true)	420		PCU	P439824	
	EPA 180.1 Rev. 2.0	Turbidity	3.9	A	NTU	P439829	
	EPA 300.0 Rev. 2.1	Chloride	16		mg Cl/L	P440407	
		Sulfate	16		mg SO4/L	P440411	
	SM 2320 B-2011	Total Alkalinity	4.3	A	mg CaCO3/L	P440348	
	SM 2540 C-2015	TDS	155		mg/L	P440340	
	SM 2540 D-2015	TSS	3	I	mg/L	P440335	
	SM 4500-F- C-2011	Fluoride	0.065	I	mg F/L	P440094	
2460465	EPA 350.1 Rev. 2.0	Ammonia-N	0.027		mg N/L	P439933	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	1.5		mg N/L	P439856	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.17		mg N/L	P439956	
	EPA 365.1 Rev. 2.0	Total-P	0.86		mg P/L	P439937	
	SM 5310 B-2014	Organic Carbon	35		mg C/L	P439917	

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: P439824

Component	Result	Code	Units
Color (true)	2.5	U	PCU

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439829

Component	Result	Code	Units
Turbidity	0.10	U	NTU

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440407

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440411

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439933

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

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439856

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439955

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439956

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

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439937

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

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B
Batch ID: P439740

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: P439906

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: SM 2320 B-2011
Batch ID: P440091

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

Reference Method: SM 2320 B-2011
Batch ID: P440348

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

Quality Assurance Report
Method Blank Results

Reference Method: SM 2540 C-2015
Batch ID: P440340

Component	Result	Code	Units
TDS	15	U	mg/L

Reference Method: SM 2540 D-2015
Batch ID: P440335

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P440094

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

Reference Method: SM 5310 B-2014
Batch ID: P439917

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: P439824

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

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439829

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440407

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

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440411

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

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439933

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Ammonia-N	94.6		P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439856

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Kjeldahl Nitrogen	108		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439955

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439956

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
NO2NO3-N	96.5		P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439937

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B
Batch ID: P439740

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	108		P	40 - 150
AMPA	98.2		P	40 - 150
Endothall	98.7		P	40 - 150
Glufosinate	109		P	40 - 150
Glyphosate	105		P	40 - 150
Sucralose	98.6		P	40 - 150

Reference Method: EPA 8321B
Batch ID: P439906

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	90.7		P	40 - 150
2,4,5-T	110		P	40 - 150
Acetaminophen	80.6		P	30 - 150
Acetamiprid	78.3		P	40 - 150
Afidopyropen	36.0		P	30 - 150
Bentazon	71.2		P	30 - 150
Benzovindiflupyr	78.4		P	40 - 150
Carbamazepine	73.8		P	40 - 150
Clothianidin	87.2		P	40 - 150
Dinotefuran	95.5		P	40 - 150
Diuron	78.5		P	40 - 150
Fenuron	89.4		P	40 - 150
Fluridone	88.2		P	40 - 150
Hydrocodone	99.6		P	40 - 150
Ibuprofen	56.5		P	40 - 150
Imazapyr	77.1		P	40 - 150
Imidacloprid	78.3		P	40 - 150
Linuron	74.1		P	40 - 150
Mandestrobin	81.5		P	40 - 150
MCPP	84.6		P	40 - 150
Naproxen	53.4		P	40 - 150
Primidone	85.5		P	40 - 150
Pyraclostrobin	73.4		P	40 - 150
Silvex	75.0		P	40 - 150
Thiamethoxam	89.0		P	40 - 150
Tolfenpyrad	50.7		P	30 - 150
Triclopyr	116		P	40 - 150

Reference Method: SM 2320 B-2011
Batch ID: P440091

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	98.4		P	92 - 105

Reference Method: SM 2320 B-2011
Batch ID: P440348

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.6		P	92 - 105

Quality Assurance Report
Laboratory Control Sample Accuracy

Reference Method: SM 2540 C-2015
Batch ID: P440340

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

Reference Method: SM 2540 D-2015
Batch ID: P440335

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

Reference Method: SM 4500-F- C-2011
Batch ID: P440094

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

Reference Method: SM 5310 B-2014
Batch ID: P439917

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Organic Carbon	98.4		P	85 - 115

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440407

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460403	Chloride	107		P	90 - 110
2460464	Chloride	108		P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440411

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460403	Sulfate	102		P	90 - 110
2460464	Sulfate	104		P	90 - 110

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439933

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460406	Ammonia-N	96.8	98.2	P/P	90 - 110

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439856

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460480	Kjeldahl Nitrogen	106	108	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439955

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460098	NO2NO3-N	94.0		P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439956

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460465	NO2NO3-N	92.0	91.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439937

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460448	Total-P	105	105	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P439740

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2459956	Acesulfame K	131	140	P/P	40 - 150
2459956	AMPA	85.8	90.6	P/P	40 - 150
2459956	Endothall	87.7	93.0	P/P	40 - 150
2459956	Glufosinate	108	120	P/P	40 - 150
2459956	Sucralose	102	100	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B
Batch ID: P439906

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460572	2,4-D	101	95.9	P/P	40 - 150
2460572	2,4,5-T	109	86.7	P/P	40 - 150
2460572	Acetaminophen	85.6	83.6	P/P	30 - 150
2460572	Acetamiprid	104	99.3	P/P	40 - 150
2460572	Afidopyropen	86.7	86.7	P/P	30 - 150
2460572	Bentazon	70.6	66.4	P/P	30 - 150
2460572	Benzovindiflupyr	88.8	87.6	P/P	40 - 150
2460572	Carbamazepine	82.1	79.8	P/P	40 - 150
2460572	Clothianidin	99.4	93.6	P/P	40 - 150
2460572	Dinotefuran	116	106	P/P	40 - 150
2460572	Diuron	81.4	73.0	P/P	40 - 150
2460572	Fenuron	92.7	86.3	P/P	40 - 150
2460572	Fluridone	102	100	P/P	40 - 150
2460572	Hydrocodone	107	102	P/P	40 - 150
2460572	Ibuprofen	61.2	58.2	P/P	40 - 150
2460572	Imazapyr	95.3	94.1	P/P	40 - 150
2460572	Imidacloprid	101	94.7	P/P	40 - 150
2460572	Linuron	85.9	74.2	P/P	40 - 150
2460572	Mandestrobin	96.7	92.3	P/P	40 - 150
2460572	MCCPP	95.6	88.4	P/P	40 - 150
2460572	Naproxen	54.2	66.4	P/P	40 - 150
2460572	Primidone	96.5	91.4	P/P	40 - 150
2460572	Pyraclostrobin	82.0	78.1	P/P	40 - 150
2460572	Silvex	83.7	78.5	P/P	40 - 150
2460572	Thiamethoxam	88.0	84.1	P/P	40 - 150
2460572	Tolfenpyrad	51.2	49.7	P/P	30 - 150
2460572	Triclopyr	123	102	P/P	40 - 150

Reference Method: SM 4500-F- C-2011
Batch ID: P440094

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2461094	Fluoride	103	102	P/P	94 - 106

Reference Method: SM 5310 B-2014
Batch ID: P439917

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2460463	Organic Carbon	98.8	98.8	P/P	85 - 115

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P439824

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460462	Color (true)	7.51	Sample	P	0 - 20

Reference Method: EPA 180.1 Rev. 2.0
Batch ID: P439829

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460464	Turbidity	10.3	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440407

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460403	Chloride	1.74	Sample	P	0 - 20

Reference Method: EPA 300.0 Rev. 2.1
Batch ID: P440411

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460403	Sulfate	2.45	Sample	P	0 - 20

Reference Method: EPA 350.1 Rev. 2.0
Batch ID: P439933

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460406	Ammonia-N	0.881	Spike	P	0 - 20

Reference Method: EPA 351.2 Rev. 2.0
Batch ID: P439856

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460480	Kjeldahl Nitrogen	1.56	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439955

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460098	NO2NO3-N	0.0	Spike	P	0 - 20

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P439956

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460465	NO2NO3-N	0.285	Spike	P	0 - 20

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0
Batch ID: P439937

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460448	Total-P	0.238	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P439740

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2459956	Acesulfame K	5.94	Spike	P	0 - 30
2459956	AMPA	4.16	Spike	P	0 - 30
2459956	Endothall	5.83	Spike	P	0 - 30
2459956	Glufosinate	10.5	Spike	P	0 - 30
2459956	Glyphosate	4.35	Spike	P	0 - 30
2459956	Sucralose	1.15	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P439906

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460572	2,4-D	5.55	Spike	P	0 - 30
2460572	2,4,5-T	23.1	Spike	P	0 - 30
2460572	Acetaminophen	2.40	Spike	P	0 - 30
2460572	Acetamiprid	4.25	Spike	P	0 - 30
2460572	Afidopyropen	0.0148	Spike	P	0 - 30
2460572	Bentazon	4.84	Spike	P	0 - 30
2460572	Benzovindiflupyr	1.32	Spike	P	0 - 30
2460572	Carbamazepine	2.85	Spike	P	0 - 30
2460572	Clothianidin	6.07	Spike	P	0 - 30
2460572	Dinotefuran	8.61	Spike	P	0 - 30
2460572	Diuron	10.5	Spike	P	0 - 30
2460572	Fenuron	7.21	Spike	P	0 - 30
2460572	Fluridone	1.98	Spike	P	0 - 30
2460572	Hydrocodone	4.00	Spike	P	0 - 30
2460572	Ibuprofen	4.92	Spike	P	0 - 30
2460572	Imazapyr	1.03	Spike	P	0 - 30
2460572	Imidacloprid	6.68	Spike	P	0 - 30
2460572	Linuron	14.6	Spike	P	0 - 30
2460572	Mandestrobin	4.74	Spike	P	0 - 30
2460572	MCPP	7.80	Spike	P	0 - 30
2460572	Naproxen	20.3	Spike	P	0 - 30
2460572	Primidone	5.39	Spike	P	0 - 30
2460572	Pyraclostrobin	4.84	Spike	P	0 - 30
2460572	Silvex	6.40	Spike	P	0 - 30
2460572	Thiamethoxam	4.52	Spike	P	0 - 30
2460572	Tolfenpyrad	2.97	Spike	P	0 - 30
2460572	Triclopyr	18.9	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P440091

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461094	Total Alkalinity	1.52	Sample	P	0 - 3.9

Reference Method: SM 2320 B-2011
Batch ID: P440348

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460464	Total Alkalinity	1.78	Sample	P	0 - 3.9

Reference Method: SM 2540 C-2015
Batch ID: P440340

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460404	TDS	7.85	Sample	P	0 - 10

Reference Method: SM 4500-F- C-2011
Batch ID: P440094

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2461094	Fluoride	0.980	Spike	P	0 - 1.9

Reference Method: SM 5310 B-2014
Batch ID: P439917

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2460463	Organic Carbon	0.0215	Spike	P	0 - 15

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

Quality Assurance Report

Surrogates

Lab Sample ID: 2460472

Field Sample ID: G4SD0107

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	71.2	P	30 - 160
EPA 8321B	Acetaminophen-d4	91.9	P	30 - 160
EPA 8321B	Carbamazepine-d10	70.6	P	30 - 160
EPA 8321B	Diuron-d6	62.1	P	30 - 160
EPA 8321B	Endothall-d6	112	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	129	P	30 - 160
EPA 8321B	Ibuprofen-d3	62.8	P	30 - 160
EPA 8321B	Primidone-d5	87.4	P	30 - 160
EPA 8321B	Sucralose-d6	98.8	P	30 - 160

Quality Assurance Report

Calibration Verification

Reference Method: DEP SOP: NU-094-1
Run ID: A123590
Included Lab Sample IDs: 2460462, 2460464

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	99.7	99.3	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0
Run ID: A123591
Included Lab Sample IDs: 2460462, 2460464

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

Reference Method: EPA 8321B
Run ID: A123620
Included Lab Sample IDs: 2460472

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	140	136	P/P	60 - 160
Sucralose	109	107	P/P	60 - 160

Reference Method: SM 5310 B-2014
Run ID: A123623
Included Lab Sample IDs: 2460463, 2460465

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Organic Carbon	115	99.3	P/P	70 - 130

Reference Method: EPA 8321B
Run ID: A123629
Included Lab Sample IDs: 2460472

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	92.6	96.0	P/P	60 - 160
Endothall	104	110	P/P	60 - 160
Glufosinate	100	105	P/P	60 - 160
Glyphosate	115	137	P/P	60 - 160

Reference Method: EPA 350.1 Rev. 2.0
Run ID: A123631
Included Lab Sample IDs: 2460463, 2460465

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Ammonia-N	98.3	98.2	P/P	90 - 110

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A123638
Included Lab Sample IDs: 2460463, 2460465

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	97.0	96.5	P/P	90 - 110
NO2NO3-N	97.0	97.0	P/P	90 - 110

Quality Assurance Report Calibration Verification

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A123653
Included Lab Sample IDs: 2460465

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total-P	98.0	99.1	P/P	90 - 110

Reference Method: EPA 8321B
Run ID: A123655
Included Lab Sample IDs: 2460472

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	112	102	P/P	50 - 150
2,4,5-T	101	93.3	P/P	50 - 150
Acetaminophen	107	104	P/P	60 - 160
Acetamiprid	110	109	P/P	50 - 150
Afidopyropen	105	113	P/P	50 - 150
Bentazon	103	92.8	P/P	50 - 160
Benzovindiflupyr	105	103	P/P	50 - 150
Carbamazepine	98.9	98.6	P/P	60 - 150
Clothianidin	105	103	P/P	60 - 150
Dinotefuran	107	108	P/P	50 - 150
Diuron	104	105	P/P	60 - 160
Fenuron	106	103	P/P	60 - 150
Fluridone	109	111	P/P	60 - 160
Hydrocodone	113	118	P/P	60 - 150
Ibuprofen	83.4	61.0	P/P	50 - 160
Imazapyr	84.7	85.2	P/P	50 - 150
Imidacloprid	91.7	91.2	P/P	60 - 150
Linuron	107	101	P/P	60 - 150
Mandestrobin	109	109	P/P	50 - 150
MCPP	100	97.2	P/P	50 - 150
Naproxen	78.9	85.4	P/P	50 - 160
Primidone	91.5	96.2	P/P	60 - 150
Pyraclostrobin	103	101	P/P	60 - 150
Silvex	101	87.5	P/P	50 - 150
Thiamethoxam	108	105	P/P	50 - 150
Tolfenpyrad	98.0	95.4	P/P	60 - 150
Triclopyr	99.7	94.8	P/P	50 - 150

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A123658
Included Lab Sample IDs: 2460463

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A123674
Included Lab Sample IDs: 2460463, 2460465

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Kjeldahl Nitrogen	100	97.5	P/P	90 - 110

Quality Assurance Report
Calibration Verification

Reference Method: SM 2320 B-2011
Run ID: A123698
Included Lab Sample IDs: 2460462

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	97.1	95.6	P/P	90 - 110

Reference Method: SM 4500-F- C-2011
Run ID: A123698
Included Lab Sample IDs: 2460462, 2460464

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Fluoride	102	104	P/P	90 - 110

Reference Method: SM 2320 B-2011
Run ID: A123784
Included Lab Sample IDs: 2460464

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	94.2	98.2	P/P	90 - 110

Reference Method: EPA 300.0 Rev. 2.1
Run ID: A123802
Included Lab Sample IDs: 2460462, 2460464

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Chloride	104	105	P/P	90 - 110
Sulfate	105	106	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	SMP	MS
DEP SOP: NU-094-1	Color (true)	100				7.51	
EPA 180.1 Rev. 2.0	Turbidity	104				10.3	
EPA 300.0 Rev. 2.1	Chloride	106	107	108		1.74	
	Sulfate	106	102	104		2.45	
EPA 350.1 Rev. 2.0	Ammonia-N	94.6	96.8	98.2			0.881
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	108	106	108			1.56
EPA 353.2 Rev. 2.0	NO2NO3-N	96.0	94.0				0.0
	NO2NO3-N	96.5	92.0	91.5			0.285
EPA 365.1 Rev. 2.0	Total-P	101	105	105			0.238
EPA 8321B	2,4-D	90.7	101	95.9			5.55
	2,4,5-T	110	109	86.7			23.1
	Acesulfame K	108	131	140			5.94
	Acetaminophen	80.6	85.6	83.6			2.40
	Acetamiprid	78.3	104	99.3			4.25
	Afidopyropen	36.0	86.7	86.7			0.0148
	AMPA	98.2	85.8	90.6			4.16
	Bentazon	71.2	70.6	66.4			4.84
	Benzovindiflupyr	78.4	88.8	87.6			1.32
	Carbamazepine	73.8	82.1	79.8			2.85
	Clothianidin	87.2	99.4	93.6			6.07
	Dinotefuran	95.5	116	106			8.61
	Diuron	78.5	81.4	73.0			10.5
	Endothall	98.7	87.7	93.0			5.83
	Fenuron	89.4	92.7	86.3			7.21
	Fluridone	88.2	102	100			1.98
	Glufosinate	109	108	120			10.5
	Glyphosate	105					4.35
	Hydrocodone	99.6	107	102			4.00
	Ibuprofen	56.5	61.2	58.2			4.92
	Imazapyr	77.1	95.3	94.1			1.03
	Imidacloprid	78.3	101	94.7			6.68
	Linuron	74.1	85.9	74.2			14.6
	Mandestrobin	81.5	96.7	92.3			4.74
	MCPP	84.6	95.6	88.4			7.80
	Naproxen	53.4	54.2	66.4			20.3
	Primidone	85.5	96.5	91.4			5.39
	Pyraclostrobin	73.4	82.0	78.1			4.84
	Silvex	75.0	83.7	78.5			6.40
	Sucralose	98.6	102	100			1.15
Thiamethoxam	89.0	88.0	84.1			4.52	
Tolfenpyrad	50.7	51.2	49.7			2.97	
Triclopyr	116	123	102			18.9	
SM 2320 B-2011	Total Alkalinity	98.4				1.52	
	Total Alkalinity	96.6				1.78	
SM 2540 C-2015	TDS	95.2				7.85	
SM 2540 D-2015	TSS	95.2					
SM 4500-F- C-2011	Fluoride	101	103	102			0.980
SM 5310 B-2014	Organic Carbon	98.4	98.8	98.8			0.0215

Reference Method Descriptions

Method

Description

Associated Samples

DEP SOP: NU-094-1

True Color measured at 450 nm (not valid for NPDES monitoring)

2460462, 2460464

Reference Method Descriptions

Method	Description	Associated Samples
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2460462, 2460464
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2460462, 2460464
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2460462, 2460464
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2460463, 2460465
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2460463, 2460465
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2460463, 2460465
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2460463, 2460465
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2460472
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2460462, 2460464
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2460462, 2460464
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2460462, 2460464
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2460462, 2460464
SM 5310 B-2014	Nonpurgeable Organic Carbon in aqueous matrices	2460463, 2460465

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	01/11/2024			01/11/2024 15:10	Chandler E Cox	2460462
	01/11/2024			01/11/2024 15:11	Chandler E Cox	2460464
EPA 180.1 Rev. 2.0	01/11/2024			01/11/2024 13:55	Khloe J Berg	2460462
	01/11/2024			01/11/2024 14:00	Khloe J Berg	2460464
EPA 300.0 Rev. 2.1	01/11/2024			01/24/2024 12:20	James L Waggeberby	2460464
	01/11/2024			01/24/2024 14:36	James L Waggeberby	2460462
EPA 350.1 Rev. 2.0	01/11/2024			01/16/2024 12:04	Khloe J Berg	2460463
	01/11/2024			01/16/2024 12:06	Khloe J Berg	2460465
EPA 351.2 Rev. 2.0	01/11/2024	01/12/2024 16:37	Simonne.V. Calhoun	01/16/2024 15:46	Ping Hua	2460463
	01/11/2024	01/12/2024 16:37	Simonne.V. Calhoun	01/16/2024 15:48	Ping Hua	2460465
EPA 353.2 Rev. 2.0	01/11/2024			01/16/2024 13:26	Fadila Guebre	2460463
	01/11/2024			01/16/2024 13:33	Fadila Guebre	2460465
EPA 365.1 Rev. 2.0	01/11/2024	01/16/2024 15:37	Adam P Silver	01/17/2024 10:53	Elise M. Gillis	2460465
	01/11/2024	01/16/2024 15:37	Adam P Silver	01/17/2024 13:18	Elise M. Gillis	2460463
EPA 8321B	01/11/2024	01/12/2024 16:00	Tae K Lee	01/13/2024 04:28	Hana Lee	2460472
	01/11/2024	01/12/2024 16:00	Tae K Lee	01/14/2024 02:59	Hana Lee	2460472
	01/11/2024	01/16/2024 11:00	Hoor Shaik	01/16/2024 23:32	Juyoung Kim	2460472
SM 2320 B-2011	01/11/2024			01/18/2024 09:21	Dale L. Simmons	2460462
	01/11/2024			01/23/2024 20:30	Dale L. Simmons	2460464
SM 2540 C-2015	01/11/2024			01/16/2024 16:17	Yijie Li	2460462, 2460464
SM 2540 D-2015	01/11/2024			01/16/2024 16:07	Yijie Li	2460462, 2460464
SM 4500-F- C-2011	01/11/2024			01/18/2024 09:21	Dale L. Simmons	2460462
	01/11/2024			01/18/2024 09:33	Dale L. Simmons	2460464
SM 5310 B-2014	01/11/2024			01/12/2024 19:19	Kenneth H Lee	2460463
	01/11/2024			01/12/2024 20:37	Kenneth H Lee	2460465