

Chemical Analysis Report

SW-DIST-2022-12-01-01

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

Event Description: **Beckett and Harbor**
Request ID: **RQ-2022-11-28-16**
Customer: **SW-DIST**
Project ID: **SMP**

Send Reports to:
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Certified by: Colin Wright, Program Administrator

Date Certified: 22-DEC-2022 07:43

A handwritten signature in black ink, appearing to read "Colin Wright", is displayed on a light pink rectangular background.

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: Harbor Lake @ Center

Collection Date/Time: 11/30/2022 11:00

Field ID: G1SW0126

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2372137	DEP SOP: NU-094-1	Color (true)	27	A	PCU	P422996	
	EPA 180.1 Rev. 2.0	Turbidity	0.60	I	NTU	P423008	
	EPA 300.0 Rev. 2.1	Chloride	40		mg Cl/L	P423343	
		Sulfate	37		mg SO4/L	P423345	
	SM 2320 B-2011	Total Alkalinity	40	A	mg CaCO3/L	P423431	
	SM 2540 C-2015	TDS	163		mg/L	P423544	
	SM 2540 D-2015	TSS	2	U	mg/L	P423370	
	SM 4500-F- C-2011	Fluoride	0.10		mg F/L	P423723	
2372138	EPA 350.1 Rev. 2.0	Ammonia-N	0.007		mg N/L	P423376	
	EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	0.41		mg N/L	P423101	
	EPA 353.2 Rev. 2.0	NO2NO3-N	0.006	I	mg N/L	P423143	
	EPA 365.1 Rev. 2.0	Total-P	0.016		mg P/L	P423066	
	SM 5310 B-2011	Organic Carbon	8.2		mg C/L	P423261	
2372139	EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	0.004	U	mg P/L	P423005	

Ref. Method and Comment:

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

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

Sample Location: Beckett Lake @ Center

Collection Date/Time: 11/30/2022 11:45

Field ID: G1SW0127

Matrix: W-SURF-FRH

Sample ID	Ref. Method	Component	Result	Code	Units	Batch ID	QC Codes
2372142	EPA 8321B	2,4-D	0.015		ug/L	P423039	
		Acesulfame K	0.10	U	ug/L	P423035	
		2,4,5-T	0.0040	U	ug/L	P423039	
		AMPA	0.10	U	ug/L	P423035	
		Acetaminophen	0.0080	U	ug/L	P423039	
		Acetamiprid	0.0020	U	ug/L	P423039	
		Endothall	0.25	U	ug/L	P423035	
		Glufosinate	0.10	U	ug/L	P423035	
		Glyphosate	0.15	I	ug/L	P423035	
		Afidopyropen	0.0020	U	ug/L	P423039	
		Bentazon	0.038		ug/L	P423039	
		Sucralose	0.16		ug/L	P423035	
		Benzovindiflupyr	0.0020	U	ug/L	P423039	
		Carbamazepine	8.0E-04	U	ug/L	P423039	
		Clothianidin	0.0020	U	ug/L	P423039	
		Dinotefuran	0.0020	U	ug/L	P423039	
		Diuron	0.0020	U	ug/L	P423039	
		Fenuron	0.032	U	ug/L	P423039	
		Fluridone	0.0017	I	ug/L	P423039	
		Imazapyr	0.0069	I	ug/L	P423039	
		Hydrocodone	0.0020	U	ug/L	P423039	
		Ibuprofen	0.20	U	ug/L	P423039	
		Imidacloprid	0.0044	IJ	ug/L	P423039	MS
		Linuron	0.0040	U	ug/L	P423039	
		Mandestrobin	0.0020	U	ug/L	P423039	
		MCPP	0.0040	U	ug/L	P423039	
		Naproxen	0.0080	U	ug/L	P423039	
		Primidone	0.0040	U	ug/L	P423039	
		Pyraclostrobin	0.0020	U	ug/L	P423039	
		Silvex	0.0040	U	ug/L	P423039	
		Thiamethoxam	0.0020	UJ	ug/L	P423039	MS
		Tolfenpyrad	0.0020	U	ug/L	P423039	
		Triclopyr	0.0040	U	ug/L	P423039	

Ref. Method and Comment:

EPA 8321B: MS accuracy for bentazon could not be assessed due to high concentration of parameter in the spiked sample. Refer to the Lab Analysis Report for an explanation of QC Codes.

Quality Assurance Report Method Blank Results

Reference Method: DEP SOP: NU-094-1
Batch ID: P422996

Component	Result	Code	Units
Color (true)	2.5	U	PCU

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

Component	Result	Code	Units
Turbidity	0.10	U	NTU

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

Component	Result	Code	Units
Chloride	0.20	U	mg Cl/L

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

Component	Result	Code	Units
Sulfate	0.20	U	mg SO4/L

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

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

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

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P423143

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

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

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P423005

Component	Result	Code	Units
O-Phosphate-P	0.004	U	mg P/L

Quality Assurance Report Method Blank Results

Reference Method: EPA 8321B

Batch ID: P423035

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: P423039

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	0.20	U	ug/L
Imazapyr	0.0040	U	ug/L
Imidacloprid	0.0020	U	ug/L
Linuron	0.0040	U	ug/L
Mandestrobin	0.0020	U	ug/L
MCPP	0.0040	U	ug/L
Naproxen	0.0080	U	ug/L
Primidone	0.0040	U	ug/L
Pyraclostrobin	0.0020	U	ug/L
Silvex	0.0040	U	ug/L
Thiamethoxam	0.0020	U	ug/L
Tolfenpyrad	0.0020	U	ug/L
Triclopyr	0.0040	U	ug/L

Reference Method: SM 2320 B-2011

Batch ID: P423431

Component	Result	Code	Units
Total Alkalinity	0.65	U	mg CaCO ₃ /L

Reference Method: SM 2540 C-2015

Batch ID: P423544

Component	Result	Code	Units
TDS	15	U	mg/L

Quality Assurance Report

Method Blank Results

Reference Method: SM 2540 D-2015
Batch ID: P423370

Component	Result	Code	Units
TSS	2	U	mg/L

Reference Method: SM 4500-F- C-2011
Batch ID: P423723

Component	Result	Code	Units
Fluoride	0.025	U	mg F/L

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

Component	Result	Code	Units
Organic Carbon	0.50	U	mg C/L

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: DEP SOP: NU-094-1
Batch ID: P422996

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

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

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

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

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

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

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Sulfate	98.1		P	90 - 110

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

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

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

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P423143

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

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

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P423005

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

Quality Assurance Report Laboratory Control Sample Accuracy

Reference Method: EPA 8321B

Batch ID: P423035

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Acesulfame K	109		P	40 - 150
AMPA	83.9		P	40 - 150
Endothall	78.1		P	40 - 150
Glufosinate	70.2		P	40 - 150
Glyphosate	103		P	40 - 150
Sucralose	92.8		P	40 - 150

Reference Method: EPA 8321B

Batch ID: P423039

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2,4-D	96.5		P	40 - 150
2,4,5-T	106		P	40 - 150
Acetaminophen	88.2		P	30 - 150
Acetamiprid	89.0		P	40 - 150
Afidopyropen	62.4		P	30 - 150
Bentazon	96.0		P	30 - 150
Benzovindiflupyr	86.1		P	40 - 150
Carbamazepine	90.5		P	40 - 150
Clothianidin	96.2		P	40 - 150
Dinotefuran	94.9		P	40 - 150
Diuron	79.8		P	40 - 150
Fenuron	97.0		P	40 - 150
Fluridone	91.3		P	40 - 150
Hydrocodone	94.3		P	40 - 150
Ibuprofen	91.6		P	40 - 150
Imazapyr	86.8		P	40 - 150
Imidacloprid	118		P	40 - 150
Linuron	79.3		P	40 - 150
Mandestrobin	87.0		P	40 - 150
MCPP	103		P	40 - 150
Naproxen	113		P	40 - 150
Primidone	98.5		P	40 - 150
Pyraclostrobin	85.1		P	40 - 150
Silvex	104		P	40 - 150
Thiamethoxam	92.7		P	40 - 150
Tolfenpyrad	62.4		P	30 - 150
Triclopyr	119		P	40 - 150

Reference Method: SM 2320 B-2011

Batch ID: P423431

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Total Alkalinity	96.4		P	94 - 106

Reference Method: SM 2540 C-2015

Batch ID: P423544

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

Quality Assurance Report

Laboratory Control Sample Accuracy

Reference Method: SM 2540 D-2015
Batch ID: P423370

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

Reference Method: SM 4500-F- C-2011
Batch ID: P423723

Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
Fluoride	102		P	96 - 104

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

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

Quality Assurance Report Matrix Spike Accuracy

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

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

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

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

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

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

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

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P423143

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372162	NO2NO3-N	102	102	P/P	90 - 110

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

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P423005

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372139	O-Phosphate-P	101	103	P/P	90 - 110

Reference Method: EPA 8321B
Batch ID: P423035

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372142	Acesulfame K	56.5	61.8	P/P	40 - 150
2372142	AMPA	86.6	80.6	P/P	40 - 150
2372142	Endothall	64.6	66.0	P/P	40 - 150
2372142	Glufosinate	71.5	78.1	P/P	40 - 150
2372142	Glyphosate	101	91.3	P/P	40 - 150
2372142	Sucralose	101	91.4	P/P	40 - 150

Quality Assurance Report Matrix Spike Accuracy

Reference Method: EPA 8321B

Batch ID: P423039

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2372142	2,4-D	116	110	P/P	40 - 150
2372142	2,4,5-T	123	113	P/P	40 - 150
2372142	Acetaminophen	111	106	P/P	30 - 150
2372142	Acetamiprid	84.7	79.0	P/P	40 - 150
2372142	Afidopyropen	71.8	66.4	P/P	30 - 150
2372142	Benzovindiflupyr	85.7	85.1	P/P	40 - 150
2372142	Carbamazepine	90.3	88.2	P/P	40 - 150
2372142	Clothianidin	127	121	P/P	40 - 150
2372142	Dinotefuran	138	132	P/P	40 - 150
2372142	Diuron	70.6	63.5	P/P	40 - 150
2372142	Fenuron	94.5	89.0	P/P	40 - 150
2372142	Fluridone	89.0	84.3	P/P	40 - 150
2372142	Hydrocodone	123	116	P/P	40 - 150
2372142	Ibuprofen	75.3	88.3	P/P	40 - 150
2372142	Imazapyr	139	130	P/P	40 - 150
2372142	Imidacloprid	163	153	F/F	40 - 150
2372142	Linuron	74.8	80.4	P/P	40 - 150
2372142	Mandestrobin	86.8	83.1	P/P	40 - 150
2372142	MCCP	127	120	P/P	40 - 150
2372142	Naproxen	113	131	P/P	40 - 150
2372142	Primidone	117	109	P/P	40 - 150
2372142	Pyraclostrobin	89.6	85.6	P/P	40 - 150
2372142	Silvex	141	117	P/P	40 - 150
2372142	Thiamethoxam	159	147	F/P	40 - 150
2372142	Tolfenpyrad	59.3	59.1	P/P	30 - 150
2372142	Triclopyr	124	115	P/P	40 - 150

Reference Method: SM 4500-F- C-2011

Batch ID: P423723

Spiked Sample	Component	% Rec.1	% Rec.2	Pass/Fail	Control Limits
2374318	Fluoride	100	98.6	P/P	94 - 104

Reference Method: SM 5310 B-2011

Batch ID: P423261

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

Quality Assurance Report Precision

Reference Method: DEP SOP: NU-094-1
Batch ID: P422996

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372137	Color (true)	1.82	Sample	P	0 - 20

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

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

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

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

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

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

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

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

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

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

Reference Method: EPA 353.2 Rev. 2.0
Batch ID: P423143

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372162	NO2NO3-N	0.489	Spike	P	0 - 20

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

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

Quality Assurance Report Precision

Reference Method: EPA 365.1 Rev. 2.0 dissolved
Batch ID: P423005

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372139	O-Phosphate-P	2.05	Spike	P	0 - 20

Reference Method: EPA 8321B
Batch ID: P423035

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372142	Acesulfame K	8.99	Spike	P	0 - 30
2372142	AMPA	7.14	Spike	P	0 - 30
2372142	Endothall	2.23	Spike	P	0 - 30
2372142	Glufosinate	8.91	Spike	P	0 - 30
2372142	Glyphosate	9.75	Spike	P	0 - 30
2372142	Sucralose	9.55	Spike	P	0 - 30

Reference Method: EPA 8321B
Batch ID: P423039

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372142	2,4-D	3.88	Spike	P	0 - 30
2372142	2,4,5-T	8.60	Spike	P	0 - 30
2372142	Acetaminophen	3.87	Spike	P	0 - 30
2372142	Acetamiprid	6.89	Spike	P	0 - 30
2372142	Afidopyropen	7.83	Spike	P	0 - 30
2372142	Bentazon	5.66	Spike	P	0 - 30
2372142	Benzovindiflupyr	0.726	Spike	P	0 - 30
2372142	Carbamazepine	2.44	Spike	P	0 - 30
2372142	Clothianidin	5.48	Spike	P	0 - 30
2372142	Dinotefuran	4.69	Spike	P	0 - 30
2372142	Diuron	10.6	Spike	P	0 - 30
2372142	Fenuron	5.92	Spike	P	0 - 30
2372142	Fluridone	4.89	Spike	P	0 - 30
2372142	Hydrocodone	5.80	Spike	P	0 - 30
2372142	Ibuprofen	16.0	Spike	P	0 - 30
2372142	Imazapyr	6.27	Spike	P	0 - 30
2372142	Imidacloprid	6.31	Spike	P	0 - 30
2372142	Linuron	7.30	Spike	P	0 - 30
2372142	Mandestrobin	4.33	Spike	P	0 - 30
2372142	MCPP	5.79	Spike	P	0 - 30
2372142	Naproxen	15.0	Spike	P	0 - 30
2372142	Primidone	6.76	Spike	P	0 - 30
2372142	Pyraclostrobin	4.55	Spike	P	0 - 30
2372142	Silvex	18.4	Spike	P	0 - 30
2372142	Thiamethoxam	7.54	Spike	P	0 - 30
2372142	Tolfenpyrad	0.359	Spike	P	0 - 30
2372142	Triclopyr	7.60	Spike	P	0 - 30

Quality Assurance Report Precision

Reference Method: SM 2320 B-2011
Batch ID: P423431

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2372137	Total Alkalinity	1.23	Sample	P	0 - 3.8

Reference Method: SM 4500-F- C-2011
Batch ID: P423723

Replicated Lab Sample	Component	% RSD/RPD	Sample/Spike/LCS*	Pass/Fail	Control Limits
2374318	Fluoride	0.966	Spike	P	0 - 1.6

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

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

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

Quality Assurance Report Surrogates

Lab Sample ID: 2372142

Field Sample ID: G1SW0127

Reference Method	Surrogate	% Rec.	Pass/Fail	Control Limits
EPA 8321B	2,4-D-d3	110	P	30 - 160
EPA 8321B	Acetaminophen-d4	105	P	30 - 160
EPA 8321B	Carbamazepine-d10	88.2	P	30 - 160
EPA 8321B	Diuron-d6	70.1	P	30 - 160
EPA 8321B	Endothall-d6	60.5	P	30 - 160
EPA 8321B	Glyphosate 13C 15N	87.8	P	30 - 160
EPA 8321B	Ibuprofen-d3	88.2	P	30 - 160
EPA 8321B	Primidone-d5	129	P	30 - 160
EPA 8321B	Sucralose-d6	122	P	30 - 160

Quality Assurance Report Calibration Verification

Reference Method: DEP SOP: NU-094-1

Run ID: A116210

Included Lab Sample IDs: 2372137

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Color (true)	104	103	P/P	90 - 110

Reference Method: EPA 180.1 Rev. 2.0

Run ID: A116214

Included Lab Sample IDs: 2372137

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

Reference Method: EPA 365.1 Rev. 2.0 dissolved

Run ID: A116239

Included Lab Sample IDs: 2372139

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
O-Phosphate-P	97.7	99.0	P/P	90 - 110

Reference Method: EPA 8321B

Run ID: A116249

Included Lab Sample IDs: 2372142

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
AMPA	87.2	103	P/P	60 - 160
Endothall	66.6	67.4	P/P	60 - 160
Glufosinate	76.5	79.0	P/P	60 - 160
Glyphosate	94.4	105	P/P	60 - 160

Reference Method: EPA 8321B

Run ID: A116250

Included Lab Sample IDs: 2372142

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Acesulfame K	113	113	P/P	60 - 160
Sucralose	99.7	89.0	P/P	60 - 160

Reference Method: EPA 300.0 Rev. 2.1

Run ID: A116272

Included Lab Sample IDs: 2372137

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

Reference Method: EPA 8321B

Run ID: A116274

Included Lab Sample IDs: 2372142

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
2,4-D	93.1	102	P/P	50 - 150
2,4,5-T	111	111	P/P	50 - 150
Acetaminophen	107	105	P/P	60 - 160
Acetamiprid	111	111	P/P	50 - 150

Quality Assurance Report Calibration Verification

Reference Method: EPA 8321B
Run ID: A116274
Included Lab Sample IDs: 2372142

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Afidopyropen	108	104	P/P	50 - 150
Bentazon	101	114	P/P	50 - 160
Benzovindiflupyr	110	106	P/P	50 - 150
Carbamazepine	112	113	P/P	60 - 150
Clothianidin	117	109	P/P	60 - 150
Dinotefuran	109	113	P/P	50 - 150
Diuron	116	112	P/P	60 - 160
Fenuron	110	105	P/P	60 - 150
Fluridone	109	103	P/P	60 - 160
Hydrocodone	108	110	P/P	60 - 150
Ibuprofen	92.0	94.2	P/P	50 - 160
Imazapyr	102	100	P/P	50 - 150
Imidacloprid	105	101	P/P	60 - 150
Linuron	126	108	P/P	60 - 150
Mandestrobin	108	109	P/P	50 - 150
MCPP	96.4	98.2	P/P	50 - 150
Naproxen	82.2	72.9	P/P	50 - 160
Primidone	115	102	P/P	60 - 150
Pyraclostrobin	113	110	P/P	60 - 150
Silvex	97.6	105	P/P	50 - 150
Thiamethoxam	109	112	P/P	50 - 150
Tolfenpyrad	104	102	P/P	60 - 150
Triclopyr	104	113	P/P	50 - 150

Reference Method: EPA 353.2 Rev. 2.0
Run ID: A116276
Included Lab Sample IDs: 2372138

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
NO2NO3-N	103	99.5	P/P	90 - 110

Reference Method: EPA 365.1 Rev. 2.0
Run ID: A116279
Included Lab Sample IDs: 2372138

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

Reference Method: EPA 351.2 Rev. 2.0
Run ID: A116289
Included Lab Sample IDs: 2372138

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

Reference Method: SM 5310 B-2011
Run ID: A116322
Included Lab Sample IDs: 2372138

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

Quality Assurance Report Calibration Verification

Reference Method: EPA 350.1 Rev. 2.0

Run ID: A116358

Included Lab Sample IDs: 2372138

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

Reference Method: SM 2320 B-2011

Run ID: A116396

Included Lab Sample IDs: 2372137

Component	% Rec.1	% Rec.2	Pass/Fail*	Control Limits
Total Alkalinity	91.7	97.1	P/P	90 - 110

Reference Method: SM 4500-F- C-2011

Run ID: A116543

Included Lab Sample IDs: 2372137

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

* Pass/Fail determinations are made for each bracketing calibration verification check.

Control limits for initial calibration checks may be different from those for continuing checks, depending on method requirements.

Where they are different, both control limits are provided.

Quality Assurance Report Summary

Ref. Method	Analyte	LCS % Recovery	MS % Recovery		LCS	Precision	MS
						SMP	
DEP SOP: NU-094-1	Color (true)	104				1.82	
EPA 180.1 Rev. 2.0	Turbidity	100				4.16	
EPA 300.0 Rev. 2.1	Chloride	98.6	99.7	99.9		0.347	
	Sulfate	98.1	97.2	98.9		0.544	
EPA 350.1 Rev. 2.0	Ammonia-N	95.0	97.0	98.6			1.44
EPA 351.2 Rev. 2.0	Kjeldahl Nitrogen	102	102	102			0.0381
EPA 353.2 Rev. 2.0	NO2NO3-N	103	102	102			0.489
EPA 365.1 Rev. 2.0	Total-P	107	104	106			2.03
EPA 365.1 Rev. 2.0 dissolved	O-Phosphate-P	100	101	103			2.05
EPA 8321B	2,4-D	96.5	116	110			3.88
	2,4,5-T	106	123	113			8.60
	Acesulfame K	109	56.5	61.8			8.99
	Acetaminophen	88.2	111	106			3.87
	Acetamiprid	89.0	84.7	79.0			6.89
	Afidopyropen	62.4	71.8	66.4			7.83
	AMPA	83.9	86.6	80.6			7.14
	Bentazon	96.0					5.66
	Benzovindiflupyr	86.1	85.7	85.1			0.726
	Carbamazepine	90.5	90.3	88.2			2.44
	Clothianidin	96.2	127	121			5.48
	Dinotefuran	94.9	138	132			4.69
	Diuron	79.8	70.6	63.5			10.6
	Endothall	78.1	64.6	66.0			2.23
	Fenuron	97.0	94.5	89.0			5.92
	Fluridone	91.3	89.0	84.3			4.89
	Glufosinate	70.2	71.5	78.1			8.91
	Glyphosate	103	101	91.3			9.75
	Hydrocodone	94.3	123	116			5.80
	Ibuprofen	91.6	75.3	88.3			16.0
	Imazapyr	86.8	139	130			6.27
	Imidacloprid	118	163	153			6.31
	Linuron	79.3	74.8	80.4			7.30
	Mandestrobin	87.0	86.8	83.1			4.33
	MCPP	103	127	120			5.79
	Naproxen	113	113	131			15.0
	Primidone	98.5	117	109			6.76
	Pyraclostrobin	85.1	89.6	85.6			4.55
	Silvex	104	141	117			18.4
	Sucralose	92.8	101	91.4			9.55
	Thiamethoxam	92.7	159	147			7.54
	Tolfenpyrad	62.4	59.3	59.1			0.359
	Triclopyr	119	124	115			7.60
SM 2320 B-2011	Total Alkalinity	96.4				1.23	
SM 2540 C-2015	TDS	92.4					
SM 2540 D-2015	TSS	91.5					
SM 4500-F- C-2011	Fluoride	102	100	98.6			0.966
SM 5310 B-2011	Organic Carbon	94.0	97.6	97.9			0.143

Reference Method Descriptions

Method	Description	Associated Samples
DEP SOP: NU-094-1	True Color measured at 450 nm (not valid for NPDES monitoring)	2372137
EPA 180.1 Rev. 2.0	Turbidity in aqueous matrices	2372137

Reference Method Descriptions

Method	Description	<u>Associated Samples</u>
EPA 300.0 Rev. 2.1	Chloride in aqueous matrices	2372137
EPA 300.0 Rev. 2.1	Sulfate in aqueous matrices	2372137
EPA 350.1 Rev. 2.0	Ammonia in aqueous matrices as mg N/L	2372138
EPA 351.2 Rev. 2.0	Total Kjeldahl Nitrogen in aqueous matrices	2372138
EPA 353.2 Rev. 2.0	Nitrite/Nitrate in aqueous matrices as mg N/L	2372138
EPA 365.1 Rev. 2.0	Total Phosphorus in aqueous matrices as mg P/L	2372138
EPA 365.1 Rev. 2.0 dissolved	Ortho-phosphate, dissolved, in filtered, aqueous matrices as mg P/L	2372139
EPA 8321B	Pesticides, herbicides, and other chemicals in water matrices by HPLC/MS/MS	2372142
SM 2320 B-2011	Alkalinity in aqueous matrices as mg CaCO ₃ /L	2372137
SM 2540 C-2015	Total Dissolved Solids in aqueous matrices	2372137
SM 2540 D-2015	Total Suspended Solids in aqueous matrices using a maximum of 250 mL of sample	2372137
SM 4500-F- C-2011	Fluoride in aqueous matrices, without distillation (not valid for NPDES monitoring)	2372137
SM 5310 B-2011	Nonpurgeable Organic Carbon in aqueous matrices	2372138

Preparation and Analysis Log

Ref. Method	Received Date	Prep Date/Time	Prepared By	Analysis Date/Time	Analyzed By	Associated Samples
DEP SOP: NU-094-1	12/01/2022			12/01/2022 14:35	Chandler E Cox	2372137
EPA 180.1 Rev. 2.0	12/01/2022			12/01/2022 13:17	Khloe J Berg	2372137
EPA 300.0 Rev. 2.1	12/01/2022			12/08/2022 18:18	Anna M. Plaviak	2372137
EPA 350.1 Rev. 2.0	12/01/2022			12/09/2022 12:04	Ping Hua	2372138
EPA 351.2 Rev. 2.0	12/01/2022	12/05/2022 13:31	Judith K. Clark	12/06/2022 14:27	Samantha L Bates	2372138
EPA 353.2 Rev. 2.0	12/01/2022			12/06/2022 10:04	Beverly Y. Sanders	2372138
EPA 365.1 Rev. 2.0	12/01/2022	12/05/2022 14:16	Adam P Silver	12/06/2022 12:26	James L Waggerby	2372138
EPA 365.1 Rev. 2.0 dissolved	12/01/2022			12/01/2022 15:13	Elise M. Gillis	2372139
EPA 8321B	12/01/2022	12/02/2022 12:40	Manjita Shrestha	12/02/2022 15:19	Manjita Shrestha	2372142
	12/01/2022	12/02/2022 12:40	Manjita Shrestha	12/02/2022 23:42	Manjita Shrestha	2372142
	12/01/2022	12/05/2022 10:00	Hoor Shaik	12/05/2022 19:53	Juyoung Kim	2372142
SM 2320 B-2011	12/01/2022			12/13/2022 04:31	Dale L. Simmons	2372137
SM 2540 C-2015	12/01/2022			12/05/2022 16:21	Yijie Li	2372137
SM 2540 D-2015	12/01/2022			12/05/2022 16:21	Yijie Li	2372137
SM 4500-F- C-2011	12/01/2022			12/17/2022 13:21	Dale L. Simmons	2372137
SM 5310 B-2011	12/01/2022			12/07/2022 19:50	Elise M. Gillis	2372138